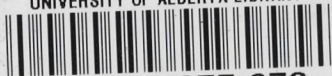


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Proceedings of the Conference of  
**The American Society of  
Farm Managers and  
Rural Appraisers**

and

**The Appraisal Institute  
of Canada**

Held at Winnipeg, Manitoba, Canada,  
June 25th, 26th and 27th, 1940.

Volume IV

NOVEMBER 1940

Number 3

Published by

THE AMERICAN SOCIETY OF FARM MANAGERS  
AND RURAL APPRAISERS

Joseph Ackerman, *Secretary-Treasurer*  
The Farm Foundation, 600 South Michigan Ave., Chicago, Ill.

and

THE APPRAISAL INSTITUTE OF CANADA

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# GOOD WILL

WHAT is so rare as a day in June? Well I'll tell you—it's International GOOD WILL. This was well demonstrated last June when two hundred thirty delegates, members and friends from seventeen states and six provinces met in Winnipeg for the annual Summer Conference of the American Society of Farm Managers and Rural Appraisers in joint session with the Appraisal Institute of Canada. Many others attended one or more sessions.

What is so rare as a day in June? Well I'll tell you—it's a clear, complete and accurate APPRAISAL. The Canadian Conference was devoted largely to the subject of "appraisal".

This "Proceedings Number" is the living, written evidence of that rare jewel "International Good Will". It is more than a proceedings number, it is a book, a TREATISE, if you please, on how to also obtain that other ambition of us all—the perfect appraisal.

When you combine International Good Will and near perfect appraisal technique you have something. You have accomplished a work of art. And so if you leisurely and carefully turn the following pages you will, we know, agree with us that this special Journal is in reality a reward from all of us to all of us.

Many dozens of members and other individuals, in addition to the various officials, have worked long and hard to make this possible. T. O. F. Herzer, Chairman of the Program Committee, and his many Lieutenants deserve our special appreciation and gratitude.

EDITOR



# JOURNAL

## of the AMERICAN SOCIETY of FARM MANAGERS and RURAL APPRAISERS

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Volume IV.

November 1940

Number 3

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**Program and Proceedings of the Conference of the American Society of Farm Managers and Rural Appraisers and the Appraisal Institute of Canada, held at the Royal Alexandra Hotel, Winnipeg, Manitoba, June 25th, 26th, and 27th, 1940.**

### P R O G R A M

#### FIRST SESSION, Tuesday, June 25th

Meeting convened by Chairman Program Committee, T. O. F. Herzer, General Manager, Canada Colonization Association and Colonization Finance Corporation of Canada, Limited, Winnipeg, Manitoba.

- (a) Address of Welcome by Hon. John Bracken, Winnipeg, Manitoba, Premier of Manitoba.
- (b) Address by Geo. D. Hopper, American Consul-General, Winnipeg, Manitoba.
- (c) "History, Aims and Objectives of the American Society of Farm Managers and Rural Appraisers." W. W. McLaughlin, A.F.M., Decatur, Illinois, President of the American Society of Farm Managers and Rural Appraisers.
- (d) Address: — John A. Rowland, K.C., Toronto Ont., President of the Dominion Mortgage and Investments Association.
- (e) "The Need for, and Proper Basis of, a Sound Appraisal System." Dr. Robt. R. Hudelson, A.F.M., A.R.A., Urbana, Illinois, Assistant Dean, College of Agriculture, University of Illinois.  
Discussion: — Dr. Stanley Warren, Ithaca, New York, Department of Agricultural Economics and Farm Management, Cornell University.

#### SECOND SESSION

##### APPRAISAL PANEL

Chairman: — True D. Morse, A.F.M., A.R.A., St. Louis, Missouri, Doane Agricultural Service, assisted by the following panel:

C. N. Rogers, Medicine Hat, Alta., Land Dept., Hudson's Bay Company.

- Dr. H. B. Sommerfeld, A.F.M., A.R.A., Winnipeg, Manitoba, Farm Manager, Colonization Finance Corporation of Canada, Limited.
- Herbert Pike, Des Moines, Iowa, Investment Service Department, Bankers Life Company
- W. J. Smith, A.R.A., Winnipeg, Man., Inspector, National Trust Company, Limited.
- E. E. McAnelly, A.R.A., Bloomington, Illinois, Chief Appraiser, Aetna Life Insurance Company
- Ersel Walley, A.R.A., A.F.M., Fort Wayne, Indiana, Walley Agricultural Service
- Henry C. Hall, Hartford, Connecticut, Assistant Supervisor of Farm Loans, Connecticut Mutual Life Insurance Company
- C. U. Jett, Philadelphia, Pa., Manager Farm Loan Division, Fidelity Mutual Life Insurance Company.
- (Note. The Wallman Farm, Sec. 4-8-1 W. 1, visited the preceding day used as the basis of this appraisal).
- Comment by Dr. W. J. Murray, Department of Agricultural Economics, Iowa State College, Ames, Iowa.

### THIRD SESSION, Wednesday, June 26th

- "The Underlying Principles of and Necessary Materials For Sound Rural Appraisal." Dr. Conrad H. Hammar, Columbia, Missouri, Professor of Agricultural Economics, University of Missouri.
- Discussion: — Dr. E. C. Hope, Saskatoon, Saskatchewan, Professor of Agricultural Economics, University of Saskatchewan.
- Dr. H. C. Grant, Winnipeg, Manitoba, Associate Professor of Agricultural Economics, University of Manitoba.

### FOURTH SESSION

- "Farm Management in Relation to Rural Appraising." Dr. H. C. M. Case, Urbana, Illinois, Department of Agricultural Economics, College of Agriculture, University of Illinois.

### FIFTH SESSION, Thursday, June 27th

#### Appraisal Institute of Canada

- (a) "Appraising Raw Lands in Western Canada." W. E. Hobbs, Winnipeg, Manitoba, Land Department, Hudson's Bay Company.
- Discussion: — A. Newman, Calgary, Alta., General Superintendent of Lands, Department of Natural Resources, Canadian Pacific Railway Company.
- J. W. Canfield, Edmonton, Alberta, Inspector, Great West Life Assurance Company
- (b) "Progress of Appraisal Technique and Practice in Western Canada." A Symposium by:—
- F. W. Gulland, Winnipeg, Manitoba, Chief Inspector, The Toronto General Trusts Corporation and President, Appraisal Institute of Canada.
- H. M. Morrison, Winnipeg, Manitoba, Supervisor of Mortgages, Great West Life Assurance Company and Past President, Appraisal Institute of Canada.



A. R. Purchase, Winnipeg, Manitoba, Loan Manager, Mutual Life Assurance Company of Canada.

W. J. Smith, A.R.A., Winnipeg, Manitoba, Inspector, National Trust Company Limited.

(This paper approved by the Board of Governors Appraisal Institute of Canada as their official contribution).

Discussion: — D. Howard Doane, A.F.M., A.R.A.

- (c) "Development of Rural Appraisal Technique and Progress During the Last Few Years." D. Howard Doane, St. Louis, Missouri, Doane Agricultural Service.

During the Convention an Address on "Early History of the Hudson's Bay Company," was given by G. W. Allan, Winnipeg, Manitoba, President Great West Life Assurance Company and Chairman, Canadian Committee, Hudson's Bay Company.

At the Official Banquet an Address on "Canada's Part in the Present Crisis" was delivered by J. M. Macdonnell, Toronto, Ontario, President and General Manager, National Trust Company, Limited.

The attendance at the Conference was between three and four hundred. Among the many telegrams and letters received from those unable to attend is one from Sir Edward Beatty, G.B.E., K.C., Montreal, Quebec, President of the Canadian Pacific Railway Company and Chancellor of McGill University:

Montreal, Quebec, June 26, 1940.

"W. W. McLaughlin,

President American Society of Farm Managers and Rural Appraisers,  
Royal Alexandra Hotel, Winnipeg.

I AM SENDING YOU THIS MESSAGE TO EXPRESS MY VERY DEEP REGRET AT MY INABILITY TO BE PRESENT AT THE OFFICIAL DINNER TONIGHT OF THE AMERICAN SOCIETY OF FARM MANAGERS AND RURAL APPRAISERS STOP I UNDERSTAND THAT WHAT PROMISES TO BE A MEMORABLE MEETING OPENED AUSPICIOUSLY YESTERDAY AND I SINCERELY CONGRATULATE YOU ON THE SUCCESS OF YOUR CANADIAN CONFERENCE STOP UNDER PRESENT-DAY CRITICAL CONDITIONS AND THE EXCEPTIONAL PROBLEMS THAT FACE AGRICULTURE I AM SURE THAT THE DELIBERATIONS OF YOUR MEMBERS WILL BE OF UNUSUAL IMPORTANCE AND VALUE STOP MAY I EXTEND MY BEST WISHES TO YOUR OFFICERS AND MEMBERS AND HOPE THAT I SHALL HAVE THE PLEASURE OF ATTENDING A FUTURE MEETING  
E. W. BEATTY"

At the close of the Meeting, the following Resolution was passed:

"Winnipeg, June 27th, 1940.

Be it resolved by the American Society of Farm Managers and Rural Appraisers that we express our deep appreciation to the Winnipeg Committee in charge of arranging this conference, The Appraisal Institute of Canada, and the Canadians generally for the fine Hospitality extended to our members and their families and for the detailed care given to the arrangement and conduct of the Conference.

This Resolution enthusiastically adopted in special Meeting of the Society on this date.

Walter W. McLaughlin, President,  
Joseph Ackerman, Secretary."



## Improving Agriculture

**As an example of the re-action to this Meeting by the Canadian Press,  
the following Editorial appearing in the Winnipeg Free  
Press, August 30th, 1940, may be of interest:**

"At a time of disturbed market conditions and low prices for farm products, the companies that are the owners or mortgagors of land are showing keen interest in the practical benefits to be obtained from a more scientific agriculture. This was evident at the Winnipeg conference, two months ago, of farm managers and rural appraisers from the U. S. and Canada.

The desire for improved agriculture has led to a great interest in research and to close co-operation between the companies in question and the universities and government departments.

Many of the younger Canadian land inspectors, zone managers and field representatives are the sons and grandsons of settlers who pioneered the prairies, and a tradition of agriculture is growing up in the council rooms as well as on the farms. These young men know from experience the effects of unwise farming practices; they fully appreciate the need for improved agriculture and are likely to insist upon it.

Farm appraisal is also a matter of importance to the same companies and the June conference considered the wide range of factors bearing on the true value of property. These include not only soil and reasonably normal return but also such things as location, markets, the home, neighbors and school facilities.

The success of this conference overshadowed at the time by war developments, was ensured to a considerable degree by Mr. T. O. F. Herzer, General Manager of the Colonization Finance Corporation of Canada, Limited, who had charge of organization."



# Addresses and Papers Delivered at the Conference of the American Society of Farm Managers and Rural Appraisers and the Appraisal Institute of Canada

Held at Winnipeg, Manitoba, Canada, on June 25th, 26th and 27th, 1940.

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## EXTRACT OF AN ADDRESS

By the Chairman, T. O. F. HERZER, Winnipeg

"This day will be a memorable one in the advancement of agricultural knowledge and of the science of rural appraising in Western Canada. Some one might well ask why we proceed with a technical conference of this kind in these dark days for Canada and the British Empire. Some were kind enough to suggest that Canada had other problems, besides those of technical Agriculture and Land Appraising, and that we had better postpone this Meeting to brighter days. While we appreciate the spirit behind these suggestions, both governmental and business authorities in Canada felt that we should go through with this Conference and demonstrate in this way the motto of the British Empire to "Carry on". We of Canada and the British Empire know that better days are ahead and that we are building for a better tomorrow which will yet dawn. Hence we propose to go ahead with this conference and hope that we will have the undivided attention of all present.

Sitting before me are men representing American and Canadian loaning institutions, agricultural colleges and federal and provincial farm credit organizations from points as far distant as California, Louisiana, Texas, Connecticut, New York, and Pennsylvania in the States, and Nova Scotia, Quebec and British Columbia in Canada. Represented are also many leaders of the Agricultural Economics and Farm Management Departments of some of our leading American Universities. To these, particularly, hearty thanks for coming to us at this time and permitting us to sit at their feet, to learn what we can from their many years of training and experience. I quote from a letter written by D. B. Mansur, Ottawa, Acting Secretary of the Bank of Canada, and Superintendent of the Central Mortgage Bank:

"I feel that the Appraisal Institute of Canada deserves great credit in arranging that the Summer Conference of the American Society of Farm Managers and Rural Appraisers will be held in Winnipeg. The informal conferences which were held in August 1939 indicated the

need for this type of study and even at that time, the Appraisal Institute of Canada had made marvellous strides in establishing some uniformity of basis of valuation. Undoubtedly the more familiar the mortgage men in Western Canada become with the scientific methods of appraisal, the more likely proper adjustments are to be made in Western Canada."

Western Canada at the present time is particularly "Rural appraisal conscious". The Farmers' Creditors' Arrangement Act with its Provincial Boards of Review, various Provincial Debt Adjustment Acts and the Central Mortgage Bank are all based on the premises of establishing the "productive value of land" through a sound appraisal system. Land appraisal will never become an exact science like mathematics, but the authorities here present who contribute to the program of the Appraisal Conference will help to clarify and establish those sound principles which must be the background and foundation of any recognized land appraisal system.

This, then, is your problem: To find a usable formula and label it, so we can use it in every day work in determining the true "productive value" of agricultural land in Western Canada.

I bring you, at this time, a man who not only is the Premier of the Province of Manitoba and a leader of the agricultural West, but also a distinguished agriculturalist in his own right, a former President of the Manitoba Agricultural College, The Honourable John Bracken."

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## ADDRESS

By **HON. JOHN BRACKEN, Premier of Manitoba**

We welcome you to Canada and to Winnipeg for two reasons. First, because of who you are, and secondly, because of what you stand for. You are ambassadors of good will, at a time when the world needs a good deal more of it. You are also ambassadors of efficiency at a time when that commodity is in greater demand throughout the thousands of farm units and public institutions that dot this country. You represent two organizations, one American and one Canadian. How fitting it is at this particular time and in this particular spot in the world's history that representatives of these two great nations should be sitting around a common table trying to solve their common problems in a peaceful way! What an example to the world that two nations can live together in peace and harmony. What an example to the world that a large and powerful nation can live beside a smaller one without endeavoring to control it.

To the Canadians who are present here today let me say but one word. We are gathered here in the centre of a peaceful continent at a time when the mother nation of this Commonwealth is facing the greatest challenge of a thousand years. We are meeting in the centre of this continent when the Northern Part of it has decided to shoulder part of that burden. I suggest to you as Canadians that we should not leave this place without consecrating ourselves to the traditions for which that

nation stood, and stands, and thank God ever will stand: The tradition of every civilized nation to govern itself as it chooses; the tradition of liberty for every individual to think, and speak as he chooses within the confines of common law.

To you who do not live under the Union Jack, I extend a welcome not as to strangers or foreigners. Rather we look upon you as friends in whose veins our own blood flows; as friends whom we respect and admire because of the peace of one hundred years which has reigned over the most peaceful boundary line in the world. We invite and welcome you here not for the gold dollars you will bring,—important as those gold dollars are to us,—but rather for the pure gold of the ideas that flow untrammelled across our boundary lines, ideas that we accept on this continent without any discount whatever. As a public man, I should like to thank our friends from across the line for the very great contribution they have made to the economic, social and cultural life of this Dominion. Time will not permit me to extend this point but it will be sufficient to just mention three things. 1st. The friendly access you have provided to the resources of your research for our students and for our research and extension men. 2nd. Added wealth has come to us as a result of your developments particularly in agricultural science. One needs only to mention Rust Resistant Thatcher Wheat. We have throughout this continent, plants, fruits and shrubs, from your plant breeders, which now grow a hundred or more miles further north than nature made it possible before. 3rd. The inspiration of your leaders in every field including this gathering today. We here do not live under the Stars and Stripes, but it is equally true that we benefit as much as you do from the benefit this flag gives and as a public man I want to thank you and the institutions you represent for the contribution you have made.

You are here for the next two or three days to prove yourselves as technicians in one phase of the production of wealth, particularly agricultural wealth. In that respect your selfish interests, I know, will not run contrary to the public interest of your country and mine. We both want to see the farmer's earning power increased, his tenure made more secure, the fertility of the soil kept up, and markets for his commodities found and maintained. I am afraid, we here in Canada, need improvement in some of these things. I am afraid, we have been shortsighted in many directions. We have made heavy drafts on our soil, ploughed lands that should not have been ploughed; we have developed some export industries far beyond the needs of our own country, at a time when many of the nations have closed their doors to trade. In the ten months since the start of the war, more particularly in the last two or three, we have lost perhaps one-third of these markets, and hence we are facing adverse times. But that is no reason why we should have a defeatist attitude towards our problems. We shall be here; our resources will be here, we shall come through these difficulties, and get through more intelligently, the more we encourage such gatherings as yours to look to the facts and work out sound policies. You will be giving consideration to these needs during the next few days, and I hope also during the next months and

years. In closing I wish to thank you again for the contribution you are making towards agricultural development and wish your conference every success and extend to you a very cordial invitation to come back again.

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## Extract from an Address

**By Mr. GEO. D. HOPPER, American Consul General, at Winnipeg**

"When I was 14 years old, on my father's farm where he was trying to raise twelve children on ten acres of land, my father had the misfortune to lose his health, and as a consequence he had to sell out. Along came one of those long angling hill-billies from Kentucky, made a deal with my father, and bought that farm for \$60.00 an acre. Even then my father felt that he had robbed him. Four months later that same hill-billy sold this farm for \$100.00 an acre. Right then a movement started which has since developed into this present organization. At least it caused a lot of talk in my small community and since then it has made me a warm supporter of Farm Appraising.

I wish to add to Premier Bracken's welcome my own to my fellow countrymen. When you come into contact with our Canadian firends and learn their views upon big questions, take this knowledge back home with you. When I write to our Government what our Canadian friends think and do, my chiefs will be more inclined to believe what I tell them. You will take back with you new ideas of many things besides appraising of farms. If any of the institutions with which you are connected have any surplus cash lying around, they might be perhaps more readily interested in loaning on the farms you see when you have properly appraised them. I hope your stay will be both pleasant and profitable."

---

## Address

**By WALTER W. McLAUGHLIN, President**

**American Society of Farm Managers and Rural Appraisers**

Those of our group who were here two years ago have happy memories of that meeting, and are glad to be again enjoying that home product of yours, that true blend of hospitality and friendliness for which Canada is noted. Our first impression of Canadian Farm Managers and Rural Appraisers was given us by the men whom we met at that time. The fine character of these men with whom we first came in contact convinced us that the Canadians would add a powerful pillar of strength to our organization, or to any organization. With each subsequent meeting our admiration has grown.

May our hand clasp across the border always remain to strengthen agriculture on this continent!



At our last summer meeting, in Tulsa, Oklahoma, Mr. Herzer, on behalf of Hon. Jas. G. Gardiner, Minister of Agriculture, and the Hon. John Bracken, Premier of Manitoba, extended an official invitation to come to Canada, which we so gladly accepted. We accepted because Canada is a near neighbor to the United States in more than one sense: Its territory joins that of our own, and the two peoples are predominantly English in origin, and speak a common language. The two countries have become somewhat mutually dependent due to the fact that a large and satisfactory trade has developed between them. More than that, the two countries for more than a hundred years have been willing to settle all disputes by peaceful arbitration, and to live without fortifications along the borders or navies upon the Great Lakes. We of the United States feel extremely fortunate in having you as a friendly neighbor.

Canada comprises most of the northern half of North America. I was a bit overwhelmed when I realized that the land area of your Dominion is 3,466,593 square miles, or not much less than that of all Europe. You may well be proud of the development which has been accomplished in this country in the past, but no doubt, much greater development will be accomplished in the years to come.

It seems fitting and proper that our Society should come to Winnipeg for this meeting, because it is not only the center of a large midwest farming area, it is also the geographical center of North America.

Some may ask, "Why are we here? Why is it worthwhile for those representing our professions in two nations to come together in a meeting of this kind?" One reason is that we all desire "truth," but in our professions, the truth is not always established, nor is it always easy to adapt it to the new discoveries affecting agriculture. The truth about farm management and rural appraising is too large for one man to see it all. That is why we have an American Society. That is why we are glad to come to Canada for our summer meeting and meet with the other allied organizations of this gathering in Winnipeg.

From a very modest beginning ten years ago our organization has now grown until we have a membership in 32 states, and in the Dominion of Canada.

When the founders of this Society selected a name, they named it the American Society with forethought, hoping that we might have the honor to have members from Canada. That hope has been realized, because some of the outstanding members of our organization live in Canada.

Dr. W. J. Spillman is sometimes called the "Daddy of Farm Management in the United States." He became head of the Office of Farm Management in the Bureau of Plant Industry; U.S.D.A. in 1904. We were most fortunate in having him attend a meeting of our organization in Chicago a few years ago, and he gave us an inspirational address which those of us who heard it will never forget. He told of those early days when he and Dr. H. M. Taylor and D. Howard Doane, and others were struggling to make a place under the sun for farm management in connection with the U.S.D.A., and the state agricultural colleges.

One of the oldest farm management organizations which we have any record of is the North West Farm Managers Association which was organized at Fargo, N. D., in 1909—1910. In June, 1910, the College of

Agriculture of Missouri University created the first farm management department in an agricultural college, with D. Howard Doane as department head. We are proud to have had Mr. Doane as the first president of our society. Previous to the formation of the American Society, however, several states had formed various types of farm management organizations. Missouri had such an organization in 1910, and Minnesota, Indiana, Illinois, and other states also had organizations as the years went by.

On January 14, 1929, our American Society had its birth. The organization was started during Farm and Home Week at the University of Illinois. From the beginning the organization has largely consisted of men who are managers of farms not owned by themselves, and who devote practically 100% of their time to this work, and in other words make of their work a profession.

Those first meetings were small. The programs were quite informal, and consisted of a free exchange of ideas which proved to be mutually beneficial. A comparatively small group was seated around a dinner table in Champaign when someone suggested taking an inventory, and it was found that the management of well over a million acres of land was represented in that small group.

This group continued to hold two regular meetings each year. They also arranged some joint sessions with American Society of Agricultural Engineers, and with the American Farm Economics Association. At such a meeting with the latter organization held in Cincinnati in 1932, President Doane of our organization called a breakfast conference, which was participated in by representatives of the Life Insurance Farm Conference, the American Farm Economics Association, and the American Society of Farm Managers. The subject of this breakfast Conference was rural credits, and as a direct result, the National Joint committee on Rural Credits was formed. This committee represented the following organizations:

- Life Insurance Farm Conference
- Joint Stock Land Banks
- Federal Land Banks
- American Society of Farm Managers
- American Farm Economics Association
- American Agricultural Editors Association
- American Farm Bureau Federation
- National Grange

The work of the National Joint Committee on rural credits has made history. There is a printed report of some of the accomplishments, and therefore I need not go into that report here, but you all can recall that rural credits was a serious national problem in 1933 and 1934. Your speaker served as chairman of the Illinois State Agricultural Conciliatory Committee, which committee with the assistance of County Farm Debt Adjustment Committees worked out friendly settlements between debtors and creditors in over 1000 cases in Illinois, and as a result of these friendly settlements, over 1000 deserving farm families were enabled to stay on their farms.

It became quite evident to those of us working with these distressed

farm mortgages, that the trouble with a large per cent of them could be attributed to the appraisal when the mortgage loan was made. Many of these appraisals had been made when farm prices were extremely high, and the borrowers couldn't pay out when farm prices were extremely low. It was this situation which created the necessity for the National Joint Committee on Rural Credits, and more especially for their sub-committee on Rural Appraisals. The first report of this committee laid the groundwork for the income capitalization method of appraising farms. This society has taken an active part in the development of this appraisal system from the start, and in 1938 assumed the responsibility of adopting standards of practice for rural appraisers, and of naming this system the American Rural Appraisal System. This system follows a definite logical step-by-step method of building up our approach to a final valuation figure. The fundamental principle of this system has been given practical application by several large lending agencies in the United States and Canada.

No one thinks that we have reached perfection in rural appraising, but we have made a start in the right direction. In meetings like this, advancement is bound to be made in rural appraising.

It makes no difference to me as to what is the name of the system, nor is it important as to who may get the most credit. The important thing is that we are developing a sound system of rural appraising and that we are traveling down the road together with a common end in view. I am sure that we will arrive, and by so doing this society and all other organizations which have cooperated will have the satisfaction of knowing that they have contributed something worthwhile to the agricultural industry of the United States and Canada.

I have tried to show you that there was a crying need for a rural appraisal system. That is why one was developed.

There was also a crying need for better farm management. This was due to many things such as (1) the growing complexity of farming; (2) the gradual increase of tenancy; (3) the adjustment which must be made to changing conditions, and changing demand; (4) the year by year decline of soil fertility.

We have gone through the experimental period of farm management, and it is now an established fact that skilled farm management pays. Records of the College of Agriculture of the University of Illinois for the year of 1939, on 315 farms in the Central Illinois area showed a wide variation in earnings. For example, 26 farms earned less than 3% on the investment, with an average rate earned of 1.1 per cent; but in contrast 25 farms earned 15% or more, with an average rate earned of 17.9 per cent. After deducting all farm expenses and a charge of 5% for the use of capital invested in the business, the former group of operators had a loss of \$310 for labor and management earnings, as contrasted with a gain of \$4,152 for the latter group. A large part of the difference in the net return on these farms was due to a difference in management.

The records of our own organization over the past ten years show definitely that a skilled manager can take charge of a farm, and by careful management make the farm return a much greater annual net

return to the owner, and can at the same time maintain and build up the fertility of the soil.

**Accredited Members:** During 1936, the American Society of Farm Managers and Rural Appraisers started the accrediting of qualified farm managers and rural appraisers.

Other professions have standards by which they judge their members. A lawyer must pass a rigid examination and be admitted to the bar before he can practice law. A first class accountant can by passing a rigid examination, become a Certified Public Accountant (C.P.A.).

Now it is possible to secure the title of Accredited Farm Manager (A.F.M.) or Accredited Rural Appraiser (A.R.A.). A candidate for these titles must have had:

1. A University education or its equivalent.
2. Five years practical experience in his respective field of farm management or rural appraising.
3. Furnish affidavits of satisfactory performance of duty.
4. Pass rigid written and oral examinations given by the board with the assistance of the Department heads from our leading Agricultural colleges.
5. They must have signed and accepted in spirit and in fact the Code of Ethics.

It is the feeling of the officers of the Society that their bestowal of these titles marks an achievement and an obligation that tends to assure to the public well qualified, dependable, and ethical professional service in farm management and rural appraising.

Professional Farm Managers and Rural Appraisers have from the beginning worked under a code of ethics that has been effective. The availability of trained men in these fields is playing an important part in making it possible for non-resident landowners to buy land and own and operate it profitably.

All business must have dependable management to succeed. Farming is no exception. Superior management has paid in all commercial fields. It has now proven its worth in farming.

I have discussed these two professional developments in the field of agriculture; and have given a part of the history and growth of the American Society of Farm Managers and Rural Appraisers.

There was a definite need for these professions, and for the society which accounts for the healthy growth which it has enjoyed during the past ten years. It is composed of professional men with high ideals, and with the added impetus that has been given it by the addition of the Canadian members, and by meetings of this kind which give it an international scope, it would seem that our future growth is assured, provided we keep our ideals high and keep our feet on the ground.

We have only scratched the surface, but we are pioneering in an important field, which should challenge the best thought and action of every one of us, so that we may in our day contribute something worthwhile to the agricultural industry in the United States and Canada. May I close with a quotation from Theodore Roosevelt, which is as follows:

"It is not the critic who counts, nor the man who points out how the strong man stumbles, or where the doer of deeds could have done better."



The credit belongs to the man who is actually in the arena; whose face is marred by dust and sweat; who strives valiantly; there is no effort without error and shortcoming, but who does actually strive to do the deeds; who does know the great enthusiasm, the great devotion; who spends himself in a worthy cause; who at best, knows in the end the triumph of high achievement, and who at worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold timid souls who know neither victory nor defeat."

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## Address

**By JOHN A. ROWLAND, K.C., Toronto, Ontario,  
President of The Dominion Mortgage and Investments Association**

It is my very happy privilege to bring to you a word of special greeting from the Dominion Mortgage and Investments Association of which I happen to be the President. Our Association includes in its membership a vast majority of the lending, loan and insurance companies throughout Canada and represents a very large portion of the institutional mortgage loaning in this country. The peculiar interest which we have in the work of your organization as outlined by your President and in the problems which you are endeavoring to solve will, therefore, be readily apparent.

There are two essential conditions to safe mortgage lending. The first is valuations which have some proper relation to human experience, and the second, a lending contract which possesses the element of certainty, which is capable of legal interpretation, and can, if necessary, be legally enforced. If one of these conditions is lacking, our business is rendered difficult; if they are both lacking it is rendered impossible. For a number of years now there has been some wanting in both of them. I have had a good deal to say at other times and other places on the second of these conditions and I am not going to repeat it here because it has no immediate interest for this meeting. It would be presumption on my part to speak on the first to a body of men to whom that particular subject has been and is an object of special study. It is not my business to make appraisals, but it is my business to act upon them, and in some respects I am on the spot just as effectively as you are. Even a limited experience in the mortgage business leads one to the conclusion that the problem of valuation is not a simple problem. It bristles with difficulties, it is surrounded by all manners of uncertainty, not the least of which is the uncertainty of the human equation that thrusts itself forward in every business transaction.

There is a modern version of one of the proverbs of Solomon which runs this way: "Go to the Aunt, thou sluggard, and tell her that you will give her 50% off your legacy for spot cash". I do not think any of you qualified appraisers would okay that transaction. At the same time it is not a bad transaction. The Aunt discharges herself of what she deems a moral obligation to her nephew at 50 cents on the dollar, which is not bad business. The nephew gets 50 cents on the dollar which is not bad

business, because there is always the remote possibility that the Aunt may change her mind before she dies. The remaining 50% stays in the Estate to pay succession duties when she is gone.

I sometimes wonder what qualities or combination of qualities make one man a good appraiser while another is not. Sometimes, when I was practicing law, I wondered what were the qualities or combination of qualities by reason of possession or lack of which, one man became a good judge while another did not. It is an accepted fact among lawyers that one may be an exceedingly good lawyer and an exceedingly poor judge. It has been said that there are three stages in the life of a man who becomes a good judge. These periods vary in length with different individuals largely because of the temperament of the individuals themselves. In the first stage, which lasts for six months or a year, the judge follows the evidence very closely, makes extracts of it, listens attentively to the arguments of the counsel, makes a note of the authorities, reserves his judgment, reads the authorities, finally gives his decision and is sure that he is wrong. In the second stage, which is approximately twice as long as the first, he listens very carefully to the evidence, pays no attention whatever to the arguments of the counsel, consults no authorities, gives his decision at the close of the case and is sure that he is right. In the third stage, which persists throughout the remainder of his judicial career, he does his best work. During this period he listens to evidence if it appears interesting, consults authorities if he happens to be curious, gives judgment when it suits him and does not give a damn whether he is right or wrong.

Something of the same kind applies to the business of appraising. After all, the mental attitude of the judge does not rest upon a foundation of indifference; it does rest upon a sound appreciation of legal principles, a thorough knowledge of rules of law and an almost automatic reaction to the things that are material and the things that are not material which leads ultimately to the rendering of a sound verdict. I think some of these things are true of the problems you are trying to solve. It is absolutely essential that you should understand and thoroughly understand the basic principles of land and property valuation. It is also essential, when you are arriving at your final results that you should be able to apportion properly and wisely the real weight that is to be attached to the various submissions in connection with the appraisement of any particular piece of property. I am quite in sympathy with the title of the address of the next speaker ("The Need For, and Proper Basis of, a Sound Appraisal System".) I am not going to make his speech for him, but we need sound basic principles for appraising real estate.

May I add just one word, supplementary to what has been said by Hon. Mr. Bracken. I appreciate the importance of the purpose for which you are gathered here, but I am inclined to think that there is a value to a meeting of this kind which perhaps is even greater than the value of the results that are likely to come from your technical discussions. I am glad you are here for the purpose which brought you here, and I am glad that you are here at all. There are places in the world where a meeting such as this could not be held today. The fact that this meeting can be held here, that through the past hundred years meetings of this kind have

been held in your country, and in mine, with unfailing regularity, is a matter of very great importance indeed. You came here with the assurance and positive knowledge that you came as friends to be among friends. I used to think sometimes that we talked too much about this 2,000 miles of unfortified boundary. I thought that we might take it for granted. I am not so sure about this as I used to be. I know that we cannot think too often, too long or too profoundly upon the reason that lies behind that unfortified boundary line, and what it has meant for your country and ours, and I think for the world at large.

In the course of the past 125 years we have lived side by side as free neighbors working out our separate political destinies along our own lines. In the course of a century and a quarter we have built up an international trade of stupendous proportions, and we have done it without any attempt on either side to dominate or destroy the political or economic freedom of the other. We have crossed and re-crossed this international boundary line with the utmost freedom and have travelled at will throughout our respective countries without hindrance, without fear or suspicion, and without leaving behind us any miserable trail of slimy spies or greasy propagandists. We have worked side by side for a common purpose, for the liberty of our individual citizens, and we have built up here on this continent a standard of living and happiness that cannot be equalled on any other corresponding portion of the world's surface. We cannot believe that Providence has intended that the finest achievements of science should be used for the destruction of human life and property. We cannot believe that the state which after all represents the highest form of political development, which was intended to afford protection and security to the individual citizens, was ever intended to become nothing more than an instrument to destroy the liberties of her own citizens and threaten the liberties of others. It is not my conception of life as it was intended to be on this continent, and if there is any hope or promise in the world today for the generations to come after us it is found in the example of the national life which has been furnished by these two great peoples. Some weeks ago I was speaking to a club of business men in Atlantic City. It was a semi-social club but they had a striking motto, "Behold how good and how pleasant a thing it is for brethren to dwell together in unity". I said to them that your people and our people should erect opposite the international boundaries on the Atlantic and Pacific coasts two towers, and in these towers we should insert two great lights so that those who approach our shores could see in those lights, these words, "Behold how good and how pleasant a thing it is for brethren to dwell together in unity".

I take great pleasure as President of The Dominion Mortgage and Investments Association in extending to you our best wishes for a successful and happy meeting, and express the hope that when you return to your respective homes you will carry with you a very pleasant memory of the associations which you have formed here.

# The Need For and Proper Basis of a Sound Appraisal System

ROBERT R. HUDELSON

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The valuation of farm land is a major problem in every country which recognizes private rights in land. In fact, something akin to valuation is necessary in those countries which recognize only collective ownership, for in such cases the land is usually allotted to groups or individuals on a basis of productivity, location and other factors which normally determine land value in a privately owned, competitive economy. The process of land valuation is, in fact, a means of determining rights in the land or in the commodities and services which the land yields. We have only to name the principal purposes of land valuation to illustrate this point. Appraisals of farm land are most often made for taxation, extension of credit on mortgage, transfer of title, assessment of benefits or damages, and condemnation for public use. Assessment for taxation has as its purpose the determination of the share of the taxing authority in the commodities and services of land. Appraisal for mortgage lending determines the share of products and services to accrue to the creditor.

Both in Canada and the United States many millions of dollars change hands annually on the judgment of the land assessor or appraiser. If that judgment is wrong it may disturb public revenues, handicap great financial institutions such as insurance companies, or result in bankruptcy for the individual.

The largest total number of land valuations in the United States is for tax assessments and it is probable that the same statement will apply to Canada. The latest available data show that the farmers of the U. S. A. pay approximately a half billion dollars a year in property taxes and 85 percent of this sum is assessed against farm real estate. That this is a burden is evidenced by the large volume of tax delinquency. In 1933 there were 285 counties in 9 states which showed 25 to 40 percent tax delinquency over the previous 5 years.

In view of these facts it is unfortunate that there has been no adequate research program devoted to valuation of farm real estate for assessment purposes. It is very doubtful whether the common method of basing assessed value on estimated sale price is at all sound. The tax interest should be centered in the net revenue of land, not in the estimated sale price. In effect, at least, assessment of a percentage of value is a capital levy rather than an income levy.

The second largest number of farm real estate valuations is for the purpose of extending credit on mortgage security. The farm mortgage debt of United States farmers climbed from 3 billion dollars in 1910 to almost 9½ billion in 1928, then declined to about 7¼ billion in 1937. The decline was due partly to foreclosures and other debt adjustments. In 1935 about 34½ percent of all farms in the U. S. A. were under mortgage. The 1931 Census of Canada indicates that 35½ percent of Canadian farms



were mortgaged with almost 40 percent for Manitoba. It appears that the relative mortgage situation is much the same in the two countries and that there is a large amount of farm appraisal work on both sides of the boundary. It is gratifying to know that we can work together freely at the common task of discovering the best bases of appraisal for particular properties and for particular valuation purposes.

Doubtless the importance of sound appraisal and assessment practice is freely accepted by this audience and needs no further illustration, but if there is a doubt left it can be dispelled by reference to the appraisal literature of almost every country which is sufficiently developed economically to possess a literature of this kind. From the relatively young economies of South America to the old economy of China and the intermediate economies of Europe many of the same problems of farm land valuation have evolved and many of the same controversies disturb the appraiser.

The proper basis of a sound appraisal system may not be so easily established, although there is essential agreement among different schools of appraisal thought on the basic factors which have major influence on the value of farm land. There would be few dissenters from the point of view that productivity of land is of major importance or that the price of farm commodities at the farm is of high significance. Likewise, there is general agreement that other factors such as kind of road, distance from market center, community services, neighbors, and home attractiveness have their influence on value. Disagreement arises only when the exact procedure and the relative weight of each factor come up for decision. Doubtless this must remain true so long as we are unable to measure the exact or relative effect of each factor on value. It is generally agreed that an appraisal is still in the realm of opinion and not a mathematical solution based on the measured influences of all the factors involved. Probably there was disagreement among physicists as to the exact performances of a falling body under the influence of gravity until this phenomenon was carefully and accurately measured. Unfortunately there is no prospect that the exact influence of each of the many factors affecting the value of farm land can be accurately measured and thus reduce appraisals to mathematical formulae. There are too many factors and each one of them has an infinitely varied effect, depending on its combination with the other factors. For example, weeds may be a very minor influence on land value in many situations but they may rise to be the dominating influence in other cases. There have been instances in which the application for a mortgage loan was flatly denied because the land was so badly infested with some very noxious weed that there was no prospect for successful operation of the farm.

Seeing these limitations on measurements and mathematics, many appraisers have decided that there remains only the possibility of subjective judgment which is about the same thing as an informed guess. This, however, is to take the other extreme. Undoubtedly the part of wisdom is to take the middle ground and seek as many measurements and basic facts as can be determined under the conditions prevailing in the locality and on the farm to be appraised. After the financial losses, the tax delinquency and the dispossession of farmers from their farms following 1920,

no thinking appraiser and no loan committee worthy of its job will be willing to return to the subjective unsupported estimates of earlier years.

As an illustration of the possibilities in building up basic data and measurements for a major factor underlying farm land value, we may examine the case of physical productivity. This term is used to include the kind of crop, the quantity normally yielded, and the variability in yield. Physical productivity as thus defined has been shown to be the usually dominant cause of variation in land value from farm to farm and from one locality to another.

Physical productivity is established in broad patterns by climate and topography, both of which are mapped with reasonable accuracy for most farming regions. The advent of aviation has done much to improve our knowledge of weather or climate and more particularly of topography. In the United States most of the important farming areas have been photographed, giving the appraiser access to the facts of topography and land cover to an extent not previously possible. The aerial photographs are usually available and local files are being improved rapidly. So far as weather and climate are concerned, there still remain local areas of greater or less damage from hail, frost or drought which are not fully recorded in weather records, but these offer only minor problems to the appraiser who has a good knowledge of local conditions.

Within the patterns set by climate and topography, soil is the major physical determinant of kind and yield of crops. Here also, much is being done to furnish a factual basis for appraisal. The development of soil classification and mapping in the past three or four decades is quite phenomenal because it has meant the development of a new science. Progress has been very rapid and detailed soil maps of the past 10 years are so accurate and useful that only a very reckless appraiser would fail to consult them, where they are available, as a basis for setting up his estimate of kinds and quantities of crops expected from the farm to be valued.

Unfortunately, not all farming areas have yet been mapped on a detailed basis and broad reconnaissance surveys are useful only as an indication of what to look for. Even with recent detailed soil maps the appraiser is not absolved from personal examination because soil types are subject to significant variation under erosion and usage. He is, however, given very great assistance, especially if he has adequate training in the new science of soil classification. Without that training the problem of translating soil types into kinds and quantities of crops is much greater.

In the absence of complete, up-to-date soil surveys for many areas and considering the problem of translating soil types into crop acreages and yields, there is need for improved availability and greater utilization of crop acreage and yield statistics. Such statistics are generally collected by governmental agencies such as the Census Bureau and Crop Reporting Board of the U. S. A., and similar agencies in Canada. To be really useful, they need to be published by minor civil divisions with the mapping unit as small as the statistics will permit. For many states of the U. S. A., this means by townships. It is true, of course, that the statistical approach to soil productivity is historical and the appraiser is interested in the

future, not the past. Nevertheless our only means of predicting the future is to project the past with such modifications in trend as may be indicated by observed features such as erosion, weed encroachment, insect depredations, improved crop varieties, etc.

A good method of making crop acreage and yield statistics available for the appraiser is to map them by townships or other small units. Maps of each state or province showing the percentage of farm land in each crop and in pasture form a good basis for setting up the typical cropping system in the appraisal report. Such maps have been prepared for Illinois. Similarly maps showing average crop yields and carrying capacity of pastures are highly desirable in computing production. Maps showing average yields of corn by townships have been prepared for Iowa and Illinois.

Statistics in this form are very usable since appraisers generally agree that crop acreages and yields should be set up in their reports on a basis of that which is typical and not that which occurs on the particular farm. Acreage and yield estimates on this basis have become an almost universal part of appraisal reports, whether the appraiser uses capitalized income as his first basis for value or whether he starts with an estimate of normal sale price.

The township unit is much better than the county unit because, since most townships are only about six miles square, the appraiser can quickly drive over this area to see how the particular farm compares in topography, soil and cultural conditions with other farms of the township. The county unit is too large for this and it is also more variable than the smaller unit. It is true that the appraiser may decide, because of the buildings or other more or less permanent facilities on the farm, that he should depart from the typical cropping system, but in doing so he will consider the possibility that the present manager of the farm may die or move away and the incoming operator may be able and willing to farm only as others in the locality farm. Whatever the decision, it can be made more accurately if the prevailing cropping system is well known. There may be some question as to how much these basic statistics are really needed by the local appraiser who knows his territory thoroughly, but certainly they are needed by the reviewing appraiser and the loan committee in the central office.

The above discussion applies especially to crop acreage statistics, but yield data by minor civil divisions also form an excellent background for judging the particular farm. Too often the farmer, like the rest of us, remembers best the unusual. Frequently when asked what his yields have been, he will think first of the good years, thus unconsciously giving data which have an upward bias. This is not to say that the appraiser should omit all effort to get actual acreages and yields for the farm, but these should be interpreted against records for the locality.

The question arises as to the length of period to be covered by reference statistics. The crop acreage maps of Illinois are based on four years spread through a period of seven years, 1929-1935. Availability of data was the chief determining factor in this case, but in view of the well known tendency for weather to move in cycles, a ten-year average would be better. However, weather does not affect crop acreages so much as crop yields.

The corn yields mapped for Illinois were for three years scaled to a ten-year (1924-1933) county base. In view of the fact that a state such as Illinois has more than 1600 minor civil divisions, long periods involve a large volume of calculations and if the period is too long, significant trends in acreage and yield may be obscured.

For many purposes it would be a great convenience if crop acreage and yield statistics could be reduced to a common denominator and thus result in a single measure of productivity for the farm or other unit of farm land. For many regions this may be impossible, but for relatively large areas devoted almost entirely to the production of feed crops there is an intriguing possibility of expressing all crop production in terms of feed units. There have been widely published tables showing the pounds of digestible nutrients in customary units of all the common crops and these might serve as a common denominator. Another possibility is a feed unit developed for another purpose by a competent committee at Iowa State College.<sup>1)</sup> This unit is the approximate equivalent of a bushel of corn when fed to kinds of livestock which closely parallel those on Iowa farms. Obviously hay and pasture cannot be substituted for grain in the feeding of swine or in the fattening of beef cattle, but within limits substitutions are possible in the feeding of cattle, sheep and horses. The Iowa feed unit was developed for use in land utilization studies, but it seemed worth exploring as a means of expressing feed crop productivity in one common denominator for an area such as the State of Illinois where more than two thirds of the farm acreage is devoted to feed crops, much of the remainder being in timber and waste land.

As an attempt to reduce the historical productivity of farm land to a common denomination, I have converted a large volume of acreage and yield statistics for Illinois to feed units. The results are shown on the accompanying map which is presented simply as an approximation to the ideal of having, for reference, a map showing composite productivity of the prevailing crops by small geographic units. This is not to claim that the particular farm to be appraised will have the same productivity as the township but such a map is very helpful as a background. Into this background the particular farm can be fitted with considerable accuracy by the appraiser who can interpret the relative soil, topographic, cultural and other evidence of variation in productivity.

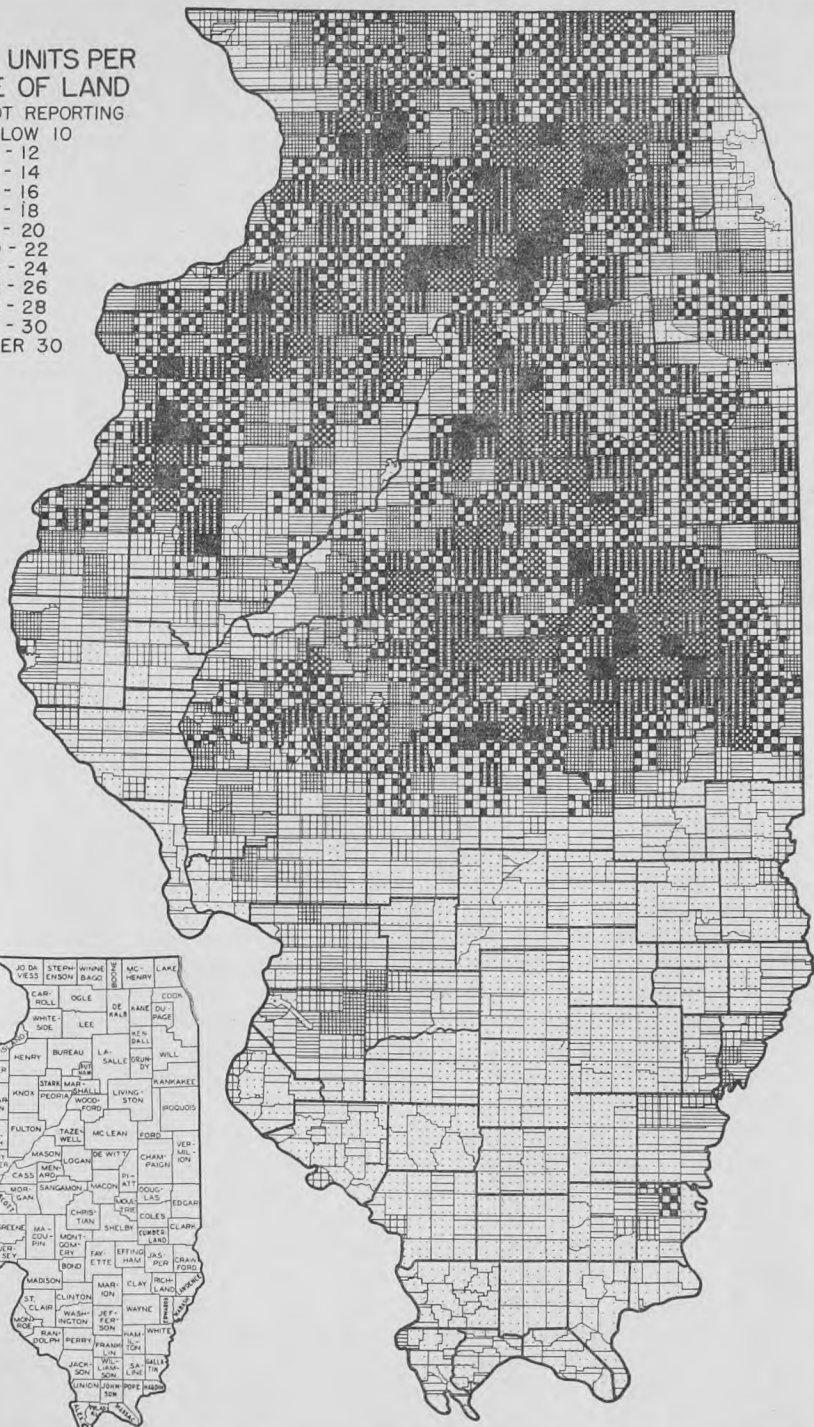
Time and space do not permit a complete presentation of the evidence to justify this productivity map, but it has been checked against soil ratings and land values with surprisingly satisfactory results. Neither is there time and space to recite all the details of methods of conversion which were used. The conversion factors were taken from the Iowa research bulletin previously mentioned.

It should be stated, however, that tests were made against soil ratings both on a township basis and on an individual farm basis. Using the figures for feed unit production by townships and the average township soil rating, correlations were computed for four large variable counties in Illinois. The correlation coefficients ranged from .834 to .994 with a standard error of about 2 feed units. The regression equation indicated a

1) Schickele, Rainer. *Economics of Land Use Adjustments*, Iowa Research Bulletin 209, 1937.



NOT REPORTING  
BELOW 10  
10 - 12  
12 - 14  
14 - 16  
16 - 18  
18 - 20  
20 - 22  
22 - 24  
24 - 26  
26 - 28  
28 - 30  
OVER 30



UNIVERSITY OF ILLINOIS AGRICULTURAL EXPERIMENT STATION

DEPARTMENT OF AGRICULTURAL ECONOMICS

Feed unit productivity of Illinois Farm land by townships, acreage and yield data for selected years in the period 1929 to 1935

rise of about  $2\frac{1}{2}$  feed units an acre for each rise of one point on the soil rating scale. Similarly, a computation of correlation was made for 70 farms, data for which were supplied by one of the large life insurance companies. The farms used were all in Illinois and had been sold by the company during a three year period. Sale prices were used and soil ratings were those entered on his report by the appraiser. Likewise the appraiser's acreages, yields and pasture descriptions were used in computing productivity in feed units. This test checked satisfactorily with the township correlations, although the standard error was larger as would be expected for individual farms widely scattered over the state.

These tests were considered satisfactory enough to justify computation of productivity in feed units for all the townships in Illinois, the results to be offered for use by appraisers working in the state.

That productivity is a major factor affecting farm land values is questioned by very few, but the degree to which land values are dependent on physical productivity seems worthy of some investigation. Consequently, I have made extensive correlation computations designed to measure the correlation between productivity and value, using the figures for productivity in terms of feed units per acre and value of land per acre as shown in the census, both on a township basis. The correlations were computed for 5 type-of-farming areas in Illinois and the coefficients of correlation ranged from .655 to .842. Nine hundred forty-five townships were included. On this evidence we may say that approximately two-thirds of the variation in land value from one township to another in Illinois is based upon productivity. In a similar manner a correlation computation was made for the 70 farms previously mentioned. Here the coefficient was .879 and the standard error was \$17.93. In other words, with these lands valued around \$100.00 an acre without buildings, the value could be computed within about \$18.00 on a basis of productivity alone. Another interesting by-product of these computations is the fact that land value tended to rise at the rate of \$4.50 to \$5.00 for each increase of one feed unit (equivalent to a bushel of corn) per acre. The conclusion here is that if the appraiser has adequate basic data to compute the productivity of farm land accurately he can go a long way in computing the value of the land for farming purposes. This does not deny the importance of other factors but it does confirm the high degree of dependence of farm land value on productivity and it emphasizes the importance of building up the most dependable measures and background information on productivity for any tract of farm land to be evaluated. This lends emphasis to soil surveys, rainfall maps, topographic maps, aerial photographs and basic tables of acreage and yields.

The practicing appraiser approaches this problem by making acreage and yield estimates for the farm to be appraised. He can be assisted by better data on crop acreages, yields and pasture carrying capacities and he should press upon the proper agencies the desirability of preparing suitable tables and maps for his use. Reliable data for the farm are usually not available and even if they were, the yields on a particular farm are often influenced greatly by the farm operator, and his management should not be capitalized into farm value.

Next to physical productivity of farm land, the most important value

factor is farm commodity prices. While variation in productivity is the chief cause of variation in land value from farm to farm and from area to area at a given time, change in prices of farm commodities is the chief cause of variation in farm land values from one time to another. Therefore, the appraiser should ask of competent agencies that they supply the best possible reference data on farm commodity prices. These data should be for local areas and they must be revised often because they are exceedingly dynamic. Two studies by F. L. Thomsen<sup>2)</sup> and L. H. Bean<sup>3)</sup> published in the *Journal of Farm Economics* are among the best references on the relation of farm commodity prices and farm land values. Both involved time series correlations between farm commodity price indexes and an index of farm real estate prices, and they show clearly that recent farm commodity prices have greater influence on farm land values than do the more distant years. In other words, they argue for the use of a seven-to-ten-year average with the nearby years given a higher weight than the more distant years. This point may be challenged on the ground that appraisers are interested in the long-time normal value of land rather than the sale price. I agree on this point, but still contend that it is probably a mistake to give equal weight to the farm commodity prices of ten years ago and those of the current or past year. To give too much weight to distant years is to obscure trends in price which may be more or less permanent. For example, to give equal weight to oat prices of ten years ago and last year tends to cover up the effect of declining demand for oats on account of the declining number of horses. The argument here is that competent authorities should build up accurate properly weighted price series suited to the use of farm appraisers.

Time does not permit the enumeration of many other factors known to affect farm land values and for which there is need of reference data with measures of influence. Some of them are roads, schools, churches, etc. Numerous studies have attempted to measure the influence of distance to town and character of road. This influence is decidedly variable and needs local analysis. Some studies have indicated that distance from pavement is now more important in determining land value than distance from town. It is highly probable that the premium for closeness to town or to a pavement is diminishing as paved roads reach a higher and higher percentage of farms. One recent study for central Illinois using multiple correlation procedure shows land value decreasing at the rate of fifty cents an acre as the distance from pavement increases by one mile. This is a smaller rate of decrease than most earlier studies reveal.

The availability of superior school facilities is another basic factor in farm land valuation. One of my studies based on paired variable comparison indicated that townships in east central Illinois with accredited high schools had an average value higher by \$2.22 an acre than similar townships without accredited high schools. Other studies have indicated that this differential is too high for localities with less produc-

2) Thomsen, F. L. **Factors Affecting Farm Real Estate Value in the United States**, *Journal of Farm Economics*, XVII, 2, 1935.

3) Bean, L. H. **Inflation and Price of Land**, *Journal of Farm Economics*, XX, 1, 1938.

tive land. Such analyses need to be repeated for each locality since it is highly probable that different people put a different value on school facilities and in some cases the higher tax may more than balance the school advantage.

Population per township was believed to have a direct relation to land value in Illinois but efforts to measure this influence have proven unsatisfactory to date. It seems clear that for our conditions, population below 2,000 per township has little relation to land value, but above that farm land values rise irregularly with population when both are expressed on a township basis.

These examples of efforts to measure the influence of distance from pavement, superior school facilities, and township population are not directly usable to most of you, but they illustrate methods of measuring influence and setting up reference data which might well be applied to many localities by competent authorities interested in placing land valuation on a basis of measured influence wherever these influences can be measured. The plan of **mapping** reference data on a basis which will make it easily available to field workers is especially recommended. In the past, appraisers have not made sufficient use of reference data, partly because the figures were scattered and difficult to find. Probably you should ask your agricultural colleges and experiment stations to lend assistance by assembling and interpreting the needed materials. Loan committees and central taxing authorities especially could make better use of well mapped reference data if they are put into convenient usable form.

If we turn now to methods of farm land valuation, we may well keep in mind the fact that whether we use income capitalization with comparative adjustments—or comparative valuation with estimated income as a check, we need the same basic data with respect to crop acreage, crop yields, pasture carrying capacity, farm commodity prices, road influence, school influence, etc. For example, practically all of the appraisal forms with which I am familiar now include an estimate of acreage devoted to each crop, with probable yields, and probable production valued at expected prices. Some of the forms stop with this total value of products while others estimate the net income either under owner operation or rental. Because it avoids many errors of estimate and largely excludes the possibility of capitalizing management, there is an increasing adoption of the landlord net income as the basis for capitalization or checking comparative value with income.

Probably we can agree that there are only two fundamental bases for determining land value, one by measuring or estimating income on which value depends and, two, by estimating sale price on a market. In either case the usual choice is a long time normal income or price.

The basic value or rental income approach frequently designated as "The American System of Farm Appraisal" has definite advantages under conditions prevailing over most of Canada and the United States. These conditions are well established systems of farming and enough renting of farm land to give a basis for estimating net rent. Throughout these countries there exists an increasing fund of information concerning kind of crop under typical operation, as well as acreages and yields. Full use

of this information avoids most of the danger of serious error in computing income and this is the chief objection by those who disparage the income approach. It is admittedly true that farms often have value supporting or depressing characters which cannot be reflected in net rent and that some unproductive farms will show no net rent after all necessary expenses are deducted, but careful use of adjustments will allow for these influences. What is needed here is more research designed to measure the influence on value of the factors not normally reflected in rentals. This research is difficult but not impossible.

One important advantage of the income approach to value is the fact that it can be built up by the individual appraiser on an increasing foundation of available facts. By contrast effective use of the approach to value by comparison with land sale prices depends upon the availability at all times of an ample file of farm sale records with adequate description of parcels sold, together with terms and conditions of sale. This is admitted by one of the most noted of the advocates of valuation by comparison with sales, namely—Frederick Aeroboe of Germany. Haas<sup>4)</sup> of Minnesota took the same point of view! However, his own study reveals the lack of an adequate basis of analyzed sales data with sufficient description of parcels sold and, although eighteen years have elapsed since his study was published, we are no nearer to having the necessary analyzed sales data than we were at the time of his study.

As to the contention of Aeroboe, Haas, and others that valuation based on income is economically unsound, I would take issue. The preponderance of economic theory, I believe, supports the view that the value of any production good is derived from the value of its products in the form of commodities and services. Farm land is wanted for its commodities and services which, because of the seasonal nature of farming, are easily conceived as annual increments. This annual stream of commodities and services is basic to value and the present value of farm land is the discounted value of these future benefits. Value of land is based on income whether we measure that value by a process of discounting estimated future incomes or whether we measure it in the land market.

This is not to deny the possibility that the land market may reflect value accurately when the market is free and active and the parcels sold are well known, but the land market is one of the most imperfect of all markets. Farms cannot be standardized or even effectively classified. It is very rare to have ready and informed purchasers and sellers with approximately equal bargaining powers. Public records are far from being adequate. Such records as exist are almost useless for any purpose except perhaps for their indication of general trends in land prices.

The ideal here would be to have a continuous, free, active land market with descriptive records on all parcels and the parcels classified with respect to all factors affecting values. With this ideal situation it would be possible to set up value classes of farms so that the appraiser could fit his farm into the proper class and thus arrive at value. It is not necessary to tell this group how far we are from realizing this ideal.

Having set up this argument, I should like to add that it seems un-

4) Haas, G. C. *Sale Prices as a Basis for Farm Land Appraisal*, Minnesota Technichal Bulletin 9, 1922.



fortunate that we are called upon to take sides in a controversy that should not exist. So long as there are two or more approaches to farm land valuation, it is the part of wisdom to use both or all of them, each serving as a check upon the other. Wide discrepancies between values arrived at by different methods should be a danger signal calling for caution and re-examination of all steps to see which approach has the soundest foundation for the particular farm and the particular purpose of valuation.

The purpose for which the valuation is made will have much to do with the choice of method. Assessment for taxation surely should emphasize income. Valuation for purchase or sale emphasizes the land market approach, while appraisal for mortgage loan probably should put first emphasis on income but should not neglect the market in view of the possible necessity to recover capital by foreclosure and sale.

It is to be hoped that appraisers on this continent will not spend their energies in trying to prove that one approach is right and the other wrong but rather that all concerned shall busy themselves in improving the factual basis on which all appraisers must depend. It seems evident that most of our trouble with land valuation in the past was the result of inadequate information rather than the particular method of using that information. Finally, the futurity of land valuation will continue to give difficulty when all possible effort has been made to reduce valuation to a science. Value is the present worth of future benefits and as much as we would like to eliminate the unknown future from our calculations, we cannot do so. Changes in soil, climate, and most of all, in prices, will continue to embarrass the appraiser. However, his only way of judging the future is to have a thorough knowledge of the past and present making a conservative allowance for well established trends.

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## Discussion of R. R. Hudelson's Paper Entitled "THE NEED FOR AND PROPER BASIS OF A SOUND APPRAISAL SYSTEM"

STANLEY W. WARREN  
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Dr. Hudelson's work in developing a map of the feed units produced per acre is a valuable contribution to our fund of basic facts which affect land values. Also his efforts to measure the influence of distance from pavement, superior school facilities, and township population illustrate useful methods of setting up reference data.

We can certainly agree with his statement that "whether we use income capitalization with comparative adjustments or comparative valuation with estimated income as a check we need the same basic data." The big need of appraisers is more basic data such as Dr. Hudelson has summarized.

When we come to the question of which method of land valuation to use, it seems to me that Dr. Hudelson overstates the case for the rental income approach. He states that over most of Canada and the United States there is "enough renting of farm land to give a basis for estimating net rent." All of the New England and Middle Atlantic States have less than 20 per cent tenancy. In 6 of the 9 Canadian provinces, less than 10 per cent of the farms are operated by tenants. Only the prairie provinces have as much as 10 per cent tenancy, and in them there are many large areas where the percentage is below 10. In all of these areas of low tenancy it is doubtful whether there is enough renting of land to give a basis for net rent.

In New York State, with 14 per cent tenancy, it might be argued that there is sufficient basis for an appraiser to make net rent estimates. However, some of this tenancy is in reality a family partnership. There is relatively little cash rental. Most of the leases are "livestock share". This means that the landlord shares in a long list of expenses, making the landlord's net income as difficult to estimate as the operator's. In fact, most of these livestock share leases are probably better designated as partnership agreements than as leases.

In many parts of the south where the share cropper system exists the landlord's net income calculation involves calculating what will be left on a whole plantation after the croppers have lived.

This problem of the reliability of income estimates is well summarized by Murray<sup>1)</sup> as follows:

"It should be recognized at the start, however, that income estimates vary in reliability from region to region. In general, these estimates are most satisfactory where tenancy is common, making it easy to determine the annual rental value of land. These estimates also work best where soil and climate are important in the determination of crop yields and rental returns. In a productive cash grain area where no fertilizer is needed, soil and climate are the deciding factors and income is relatively easy to estimate. On the contrary, income estimates work poorly where management is of chief importance and soil and climate are of small significance. On a dairy farm near a big city where much of the feed is purchased, management along with buildings, road, and location is the decisive factor, and land income is difficult to estimate. Income estimates, therefore, have their greatest advantage where tenancy is common and where soil and climate are largely responsible for crop yields and rental returns."

In addition to the practical difficulties of the rental income approach in certain areas, there is also a theoretical difficulty. In an area such as the heart of the corn belt, where absentee landlords are common it seems reasonable to assume that farms are valued primarily from the point of view of one who wishes to invest funds. This assumption is basic to the rental income approach. In regions where practically all land is operated by owners such an assumption may be erroneous. In eastern Canada and northeastern United States, the bulk of the prospective purchasers of farm land are more concerned with buying a home and job for themselves and their families, than with investing their small savings. This morning Mr.

1) Murray, W. G. "Farm Appraisal". The Iowa State College Press. p. 97.

Rowland said that appraisers should seek "valuations which have some proper relation to human experience." To value land from the point of view of an investor, where investors are not in the land market, is something like valuing a Hereford cow on the basis of the amount of milk which she will produce.

The above discussion is not intended to minimize the necessity for an appraiser to make a careful estimate of the income possibilities of every farm which he appraises. But there are many regions where such estimates are not sufficiently accurate to serve as the basic approach to the appraisal, and where the net income to the family of the owner operator is the major consideration, rather than the income to the landlord.

In such regions, the "comparison" approach must be used. This method is confused in the minds of some with "roadside appraisals." Placing values on the basis of inadequate information is not limited to any one method of valuation. It is also assumed by some that the "comparison" approach is necessarily based on the use of only recent sale prices. Certainly an appraiser who considers only recent sale prices in making his comparisons is open to severe criticism. An appraiser who used only recent prices of farm products in making his income estimate would be open to the same criticism. Sale prices to be used as a basis for the comparison approach should be obtained over a period of years. They should be checked with the experience of farmers in paying for land at these prices, and with farm management data wherever available.

Since public records of sale prices of land are usually fragmentary many persons have concluded that no adequate information can be obtained. Actually, considerable amounts of sales data together with all the circumstances of the sale can be obtained relatively easily from farmers and other local people.

If an appraiser uses the rental income as the primary approach to the valuation problem there are still many "comparative adjustments" which must be made. These adjustments are made on the basis of what premium or discount the average or normal buyer will place on the farm because of its location, and home value. In other words, an appraiser using the rental income approach must use the "comparison" method in determining the adjustments for location and home values.

If the "comparison" method is used as the primary approach, income must be used as a check, particularly in the case of an appraisal for a mortgage loan. A farm might be valued at \$4000, and actually sell for that figure, not once but a number of times over a period of years, and yet have no loan-carrying capacity, because it will not produce an income above the living expenses of the family. It would seem scarcely realistic to say that it was worthless because it could not carry a mortgage debt. In buying such a farm, the owner is purchasing a home and a job, rather than making an investment. Large numbers of farms have a certain amount of these elements of value, varying from this extreme example to farms which are purchased for an investment and which make a return on an investment basis. In appraising for loan purposes, it is important to distinguish between value and debt-carrying ability. There is no fixed relationship between the value of a farm and the amount that can safely be loaned upon it. Because it was long the practice to loan u

to 50 per cent of the appraised value of a farm, it does not follow that we should first determine the amount that can safely be loaned and then multiply by 2 in order to establish a value which may have some relation to income and debt-paying capacity but no relationship whatever to the price at which the farm might reasonably be expected to sell.

The "comparison" and "rental income" approaches differ relatively little. In the one income estimates are checked by value comparison. In the other value comparison is checked by income. An appraiser advocating rental income as the basic approach in land valuation would, if working in an area to which this approach is not adapted, soon find himself using the comparison method as a basic approach. On the other hand, any one who had been accustomed to using the comparison method as the basic approach, would soon find himself using the rental income approach if he worked in a cash crop area with a large percentage of tenancy.

Regardless of the method of valuation, an appraisal is an opinion. An opinion, to be of value, must be based on facts. The more an appraiser knows about these facts and their interrelationships the better is his basis for rendering an opinion. Dr. Hudelson has rendered a valuable service to Illinois appraisers in pointing out some of these interrelationships. Many further studies of this general nature are needed.

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## Rural Appraising---Panel Discussion

Conducted By

**TRUE D. MORSE, Doane Agricultural Service, St. Louis, Mo.**

**Assisted by Three Canadians and Five Americans**

It is appropriate to open this Panel discussion with a few categorical remarks that will be focal points or reasons for many of the statements that follow.

The valuation of real estate is no longer a mystic process. It has lost the abstract, vague methods that formerly veiled the procedure in uncertainty and made even those who were considered most competent in the field admit that they could not clearly explain the how or why of their valuations. Those who are now taking the lead in sound valuation methods have planted their feet on solid ground. They have organized and made definite their appraisal processes, and having made a start from a definite and solid foundation, they are now moving progressively forward testing, proving, and refining as they go toward more and more perfection.

This forward progress will never stop. It is a never ending process that will continue indefinitely as competent appraisers keep pace with, growing scientific knowledge and lay hold upon new facts and use them to make appraisals more accurate and usable.

All this is merely to say that what this discussion reveals today is a

long way in advance of what we knew and were practicing ten years ago. We expect, through these professional societies, the help of the colleges and universities, and constant experimenting, testing, and proving in the field to move forward with an ever-improving appraisal system.

Soon after the break was made with the old methods it was deemed advisable to adopt a name to designate the appraisal methods that were taking shape as a definite appraisal system. In the hope that this would be a continental development, as it has since proven, the name "American Rural Appraisal System" was adopted. In this panel discussion we will endeavor to show how, through this system, an appraisal is made from the time it is assigned to an appraiser or inspector until the finished report is delivered. We will go one step further. We will show how good appraisals can be analyzed and effectively interpreted and used by those who are daily investing thousands of dollars in loans, land purchases, and condemnation and other settlements based on the values set by appraisers.

Here are some requirements of a good appraisal system:

1. **It must be accurate.** This point needs no elaboration. Without correct values appraisals may do more harm than good.
2. **The system must be teachable.** The methods must be such that they can be passed on to others. Thus young men can be put into training and organizations can obtain uniformity of practices and results.
3. **The appraisal system must be subject to check and review.** Only in this way can we avoid dependence on individuals. The system must give those checks and balances necessary to guide the appraiser and reveal to others any inaccuracies that tend to creep in.
4. **It must be efficient.** It must embody systematic methods that make rapid, accurate work possible.
5. **The appraisals must be usable.** They should answer many questions beyond the single fact of total value. They must reveal the sources of value and supply much other information that may prove even more important than the final valuation figure. All pertinent facts should be in the report. Even more important, the facts should be logically organized so as to support the value conclusions. A mere listing of facts is not adequate.

The American Rural Appraisal System is an effort to meet these requirements. The improvements embodied therein have to do with the two major objectives:

- (a) The accuracy of appraisal values, and
- (b) The effectiveness with which appraisals can be interpreted and used.

Thus both in the making and use of appraisals this system represents a distinct advancement.

The system uses the same appraisal approaches, or methods, that are recognized and employed by urban appraisers, i.e.,



1. Income capitalization
2. Comparative approach
3. Reproduction cost

Appraisal principles are broadly applicable, and it is indeed fortunate that rural and urban appraisers have now recognized this fact and are applying the same principles of valuation.

The most common excuse given for not adopting the American System is that it is too long and involved. This can never be more than an **excuse**; it is not a **reason**. We would like to blast once and for all time this misconception of thought. Here are the old and the new reduced close to ultimate simplicity:

THE OLD — Comparative Approach		American Rural Appraisal System	
100 acres @ \$40.....	\$4000	Net average annual income.....	\$250
60 acres @ 10.....	600	Earning value @ 5%.....	\$5000
	—————	Additional) Location.....	1000
Total Land.....	\$4600	Value ) Home Use.....	400
Buildings added .....	1800		—————
	—————	Basic Value: per A. \$40 Total	\$6400
Value: per acre \$40, Total.....	\$6400		

If you are satisfied with a five-line appraisal make it by the best method available. It then becomes merely a question of how far you want to go in requiring of appraisers a complete inspection and report. Either is capable of indefinite expansion.

Note how revealing is even this five-line appraisal under the American System. First, it shows that judged purely on earnings the farm is worth only \$5000.00. How important it is to know that fact when making loans or buying land. I defy anyone to tell me from the old set-up how much of the \$6400.00 value is based on the ability of the farm to produce net income. Second, the favorable location accounts for about one-sixth of the value. Third, the property has added value as a home. Thus are shown the sources of value, the clear recognition of which is necessary to accurate appraising and which are so extremely important in determining the debt-bearing capacity and other characteristics of the property.

As this panel now discusses in detail the elements of good appraising, please bear in mind that these are recommended practices, subject to the abbreviations and adaptations necessary to meet individual requirements. Let us, however, never lose sight of the fact that beyond a certain point we shorten and short cut only at the expense of accuracy and effectiveness. If you shorten the appraisal process very far you should understand that you run the risk of saving on appraisal costs and later paying double with defaulted loans or other losses.

The Panel that will carry forward the discussion is composed of men with large field and administrative experience. Without exception they carry heavy responsibilities for the organizations which they represent. They are drawn from a wide geographic spread. Their work is so distributed that they truly represent most of the agriculture of the North

American continent. The men will present their papers in the order in which I am now introducing them:

**C. N. Rogers, Inspector, Hudson's Bay Company**, located at Medicine Hat, Alberta. In addition to working with improved well developed farms Mr. Rogers has had extensive experience in appraising raw lands and ranches.

**Dr. H. B. Sommerfeld** carries major responsibilities with the Colonization Finance Corporation and is located at Winnipeg, Canada. He has worked both in the States and in Canada. He has had a very liberal education in both countries and has had a wide variety of experience.

**Herbert Pike** is with Bankers Life Company, Des Moines, Iowa. He comes fresh from an interim of further studies at Iowa State College. He has had the advantage of several years' field experience followed by further technical university study. He is now back with his company definitely sharing responsibility for future farm loan and appraisal policies.

**W. J. Smith** is inspector for the National Trust Company, Winnipeg, Canada. He farmed in England before coming to Canada. He is one of the outstanding leaders among appraisers in the Dominion, having on various occasions written and spoken on the rural appraisal subjects.

**E. E. McAnelly** is chief appraiser for the Aetna Life Insurance Company and is located at Bloomington, Illinois. He is a leading technical student of both the theory and practice of appraising.

**Ersel Walley**, past president of the American Society of Farm Managers and Rural Appraisers, is owner of the Walley Agricultural Service, Fort Wayne, Indiana. He has worked in Ontario, Canada, in addition to various states.

**Henry C. Hall** is Assistant Supervisor of Farm Loans of the Connecticut Mutual Life Insurance Company, Hartford, Connecticut. He has been spending a large amount of time recently in the ranch areas of the West in addition to his administrative work in the Corn Belt and other parts of the United States.

**C. U. Jett** is Manager of the Farm Loan Division of The Fidelity Mutual Life Insurance Company. He completed advance studies in Scotland. His company interests carry him from the cotton, rice, and tobacco lands of the South and East to the wheat lands of the Dakotas.

In the informal discussion between papers we invite questions and statements from the floor. Because of time limit we must enforce our rule, and that is—all questions and statements must be short and to the point.

# Advance Preparation For Making An Appraisal

By C. N. ROGERS, Land Department, Hudson's Bay Company  
Medicine Hat, Alberta

The advance preparation that an appraiser makes after he receives an appraisal assignment and before the field inspection is made lays the foundation for a complete and accurate appraisal. It is assumed for this discussion that the appraiser is a qualified appraiser. Also it is taken for granted that he has at hand a well-stocked, carefully selected reference library, for the appraiser like the lawyer and other professional men, reliable works of reference and authoritative data are among his most essential "tools of trade", which cannot be properly dispensed with no matter how great his fund of general knowledge, how wide his experience or remarkable his memory.

Upon receipt of the assignment, the appraiser should read carefully the instructions which accompany it, to determine the specifications of the client and the purpose of the appraisal. The specifications and purpose should be carefully noted and born in mind, so that if, from the appraiser's knowledge of the district, or from information gathered or facts disclosed during the advance preparation, it becomes evident that the property will not meet the specifications, this will be recognized and reported to the client with a request for further instructions before proceeding with the appraisal.

When satisfied that the appraisal is to be made, the appraiser should fill in on the appraisal report blank, the name and address of client, the name and number (if any) of property, and any other details that can be completed in advance of the field inspection. The correct legal description and acreage of the property should be entered and if an up-to-date township plan or reference to municipal records are available, it will be possible to check the description and acreage. Mark the boundaries of the farm on the plat in such a way that they can be altered if found necessary by reason of road diversions or other features that are not known before the actual inspection is made. If there are reliable maps of the area, the railroads and towns can be marked on the location plat as well as the location of the farm. In Western Canada, maps reliable enough to indicate accurately the location of existing roads, schools and churches, are not always available, and so this information has to be picked up during the field inspection. In any case the location of all such features should be verified in the field.

Next, available crop yield statistics that may be relied on for the municipality or district should be entered in the proper place on the appraisal blank. If the appraiser is well acquainted with the community, information dealing with types of farming, kinds of crops, and trend of farming practices in the locality, can be entered on the blank, as well as information about market towns and shipping points; but if he is not

familiar with the district, the entry of such information will have to be postponed until after he has made local enquiries and observations.

The appraiser then turns to the soil maps for the area, and on a separate plat or memorandum sketches the areas of different soil types and the soil textures shown for the farm. This must not be entered in the appraisal blank until verified by observation in the field for most of our soil maps are reconnaissance surveys and not detailed enough to apply to a specific farm. The appraiser also notes the approximate area of each soil type and texture found in the municipality or district for which crop yield statistics were obtained, to enable him to form a sound opinion of the probable average yield of the farm to be appraised in relation to the yield for the district.

The appraiser having recorded the soil types and textures from the soil map, should then review the soils bulletin describing the soils found in the district, and shown as existing on the farm and in the community and note carefully the description, characteristics, relative productivity and recommended uses of the various soil types. In Saskatchewan, productivity ratings have been computed by the University Soils Department. These indicate the average production of wheat which may be expected from the various soil types. A very complete knowledge of the soils in the area is necessary in order to form a sound opinion as to what average yields may be expected from any particular farm in the area.

If an aerial photograph is available, sketch from it such details as the shape and approximate size of the fields, location of cultivated land, location of buildings and other items of interest. These are especially helpful on irregular tracts, farms cut by ditches or streams and farms partly covered with bush and timber. These photographs are not always available, but when they are, they will also furnish an accurate picture of the development and settlement in the community.

If possible the municipal office should be visited to obtain such information as assessed value of property, amount of annual taxes, stability of taxes during the past few years, amount of tax arrears by years for the farm and special taxes for drainage, telephones, irrigation, etc., the amount of such special taxes and when they will be paid off. If it is not possible to visit the municipal office, this information should be obtained by writing so that it will be available at the time of inspection.

The appraiser should be sure that he has readily available all necessary price statistics and data, also freight rates between local and essential market points, and the amount of handling charges for the produce likely to be produced on the farm under typical operation in order that he may know the correct produce prices at the local shipping point. He should determine the capitalization rate to be used in the appraisal (unless set by the sponsoring organization) and also obtain building costs applicable to this district. He should note hail insurance rates for the locality and any other pertinent information such as grasshopper infestations and noxious weed incursions, that might indicate possible hazards or detriments to watch for and enquire about. Thus when making the field study the appraiser will be alert to check against all known hazards of the community and region. Items not known beforehand, of course, will be ascertained at the time of the field inspection.

The appraiser should also study precipitation maps and records and note any item of interest such as the amount of rainfall during the growing season and the year-to-year variations from the long-term average annual rainfall. If the district is not well-known to the appraiser he should study all available reports covering the area such as those embodying agronomists' recommendations, physical surveys (geological, etc.), economic surveys or land utilization studies also any publication that will augment his knowledge of the agricultural history of the locality. While information of this type is not available for many districts, the appraiser should make sure that he is making use of all sources that are available.

Lest there be any doubt on the point, preliminary information of the general character outlined is required regardless of the kind of property to be appraised; though the detail may differ somewhat, it is required for the ranch appraisal as well as for the appraisal of grain farms.

Now that he has organized all the information from his reference library pertaining to this assignment and entered into his appraisal blank all facts that would not seem to need verification, he should contact local sources such as municipal secretaries, district agricultural representatives, agricultural extension service men, business men and farmers for information on the type of farming, rotation, yields, grades and rent terms. At the same time picking up general information on the nationality, degree of prosperity, character and reputation of the people in the community. In fact he should be on the watch everywhere for both general and specific information that may have a bearing on the value of the farm to be appraised. Often the district agriculturalist, the municipal secretary, or the local grain buyer is able to give a fairly reliable history of the manner in which the farm in question has been used or abused, especially on weed infestation and cultural conditions, and occasionally a fairly sound estimate of the past yields. Frequently, particulars such as these are obtainable before the appraiser makes his field inspection.

With all these facts and notes of general interest assembled and organized in readily available form, the appraiser is now well equipped to make the inspection today, tomorrow or two months later. Such advance preparation will greatly speed up the work in the field. This is very important, especially in Western Canada where field inspections are not possible in the winter time and there is always a rush in the summer to cover the necessary work. It would appear that the winter months could be used to very good advantage in making advance preparation for appraisals that are to be made the following spring and summer. This would not only allow more time for actual inspections, but also would overcome any tendency there might be to make abbreviated appraisals and appraisals based on a minimum amount of factual knowledge—a condition caused by scarcity of time for the collection of necessary data.

In concluding, let me again point out that in order to assemble the necessary facts for such an appraisal, it is desirable that the appraiser should have all the maps and reference material available for the area, organized in such a way that he can quickly assemble all the facts he requires to prepare for the required appraisal. Proper advance preparation makes for efficiency and accuracy. It leads to good dependable appraisals.



# Appraisal Field Inspection

By DR. H. B. SOMMERFELD,

Colonization Finance Corporation of Canada, Limited

(Note: Part of this presentation was illustrated by moving pictures taken and shown by Dr. C. H. Goulden, who is in charge of the Plant Breeding Division at the Dominion Rust Laboratories, located at the University of Manitoba. He has the distinction of breeding two of the rust-resistant wheats now widely used in western Canada "Renown" and "Regent". Dr. Goulden has generously contributed his time in taking and presenting these pictures).

As assignment to appraise a rural property having been received and advance preparation made as fully as possible, the first step in field inspection is to locate the property. This is done by the aid of land survey maps and may then be verified on the farm by survey marks of identification. The location of the land having been substantiated, the farm location map is now ready for detail completion. This should show the location of the property with reference to the nearest trading point, school, church, highways and other immediate community improvements of note. The location map will give the reviewer an idea of the location of the property in its relation to the community as a whole. (Note location plan on appraisal report. See Page 41).

A general survey of the community and the farm itself is next in order. This may be done by driving around the district within a radius of from five to ten miles from the farm, and finally making a general survey of the farm by driving around all four sides of the property. In making a general survey observations should be made as to land arability, weeds, topography, soil variations, community and farm improvements, type of farming, typical operation, and density and kind of population. Careful notes require to be made of these observations to accurately gather material necessary for establishing what is a typical operator and typical operation for the community. (Note definition of **Typical** on Appraisal Report). On the accuracy of the community observations and analysis will depend the accurate handling later of the entire appraisal, especially of the part of the appraisal dealing with comparative adjustments.

Next in order is to make a detail study of the property itself. A land use map is made showing field boundaries, amount and location of cultivated land, arable land not cultivated, and waste. (Note land use map or plan on appraisal report). It should show the position of pastures, wood lots, fencing, springs, ditches and water-ways. Farm revenue for the farm being appraised is determined by what is typical operation for the community and what might reasonably be expected to be typical operation for the farm itself. Typical operation for the farm may or may not be in effect on the farm when the appraisal is being made. The land use map will reveal to the agriculturally informed reviewer at a glance the revenue producing probabilities of the property being appraised when under typical operation.

A knowledge of the productive qualities of soil in relation to climate is basic to all sound appraisal work. Soil surveys of the area should be reviewed and applied to the specific property being appraised, and a soil map completed. (Note soil map prepared by the Soils Department of the University of Manitoba, under the direction of Professor J. H. Ellis). Where detail soil survey of the farm is not already recorded, the appraiser requires to make detailed examination himself of the soil on the property being appraised and check his findings carefully with available soil survey records, all as a basis for preparing a soil map of the property. This involves observations as to topography, drainage, stone, gravel beds, color, depth, and kind of top soil, depth and kind of sub-soil, acidity or alkalinity and physical structure. Most soil survey work that has been done in Western Canada to date is of the reconnaissance type and very little detail soil survey data is therefore available as yet for particular farms.

In establishing locations for land use maps or soil maps, location boundary lines can be sufficiently accurately determined by pacing the farm systematically. The use of a rod meter on a car may also be used where distances are considerable and a car may be driven over the farm. Appraisers conversant with the use of surveyors' instruments frequently use a prismatic compass in determining areas and boundaries of fields. Pictures taken from the air are extremely useful for determining areas and locations when available. It is hoped that these too may be more generally available in time at Municipal offices for use and guidance to the rural appraiser. It can easily be appreciated that to make accurate measurements and observations, it will be necessary to cover the farm systematically and carefully. Roadside observations are not good enough and should definitely be discouraged in preparing detail appraisal records of a farm.

Building and community improvements serve the farm and provide living accommodation for the operator. Frequently, all other things being equal, the relative quality, adaptability and efficiency of building equipment on the farm influences what may be expected as a typical operator for the property. Buildings require to be examined in detail and the following noted for appraisal purposes:—kind, accommodation provided, type of construction, dimensions, roof, foundation, paint, condition, age, and for the purpose of record, present and replacement value should be shown. Yard, fences, architecture, special conveniences should be noted when buildings are being inspected and a careful record made. (Note detail building records on appraisal report). Attention should also be given to local improvements at this time such as telephone, mail routes, hydro-electric power, etc.

The operator should now be interviewed to get from him all possible information relative to the farm and the community. If the operator has been in possession for five years or more, valuable information may be obtained from him concerning production—records, weeds, storms, insects, flooding, age of buildings, reputation of community, markets, recent farm sales, and other available detail effecting basic value. This information should be checked with neighboring farmers, district representatives,

elevator operators, and other informed persons of high integrity in the community.

If appraisal is made for the purposes of loan or sale to the occupant a financial statement should be made together with a report of investigation of the operator as to character, industry, integrity, financial and family resources and liabilities. This information should be compiled as a separate or supplemental report and not as a part of the appraisal. Information concerning the operator in possession will not effect basic value of the farm but is necessary information in substantiating recommendation concerning sale or loan to any individual.

Visit the Municipal Secretary and obtain all available data relative to assessments, taxes and debentures outstanding on local improvements. Check with all pertinent information received thus far from other individuals. The active Municipal Secretary of long standing in a district has more information concerning properties situated in his municipality than any other individual in the community. Not all information valuable to an appraiser will be found **recorded** in a municipal office or elsewhere; much of it will be of a confidential nature and must be treated as such. The Municipal Secretary is serving his municipality to good advantage in giving all information possible to a competent appraiser concerning any property in his municipality. The whole system of taxation is based on sound appraising. Sound rural appraising is the basis of equitable distribution of taxes. Sound rural appraising is the basis of all farm credit structure.

Information gathered concerning recent farm sales in the community will be of value in expressing an opinion of the present sale value of the property. The sale value of a property may be above or below its basic value depending upon whether a "buyer's" or a "seller's" market obtained at the time the appraisal is made. Care must be exercised not to be influenced unduly in arriving at basic value by recent sale values or by assessment values recorded. It will be noted that in Western Canada the assessment for taxation is made only on the land, and no attempt is made to tax for building improvements.

Finally at the conclusion of a field inspection, retrace rapidly all major observations made, in the light of everything now known about the property. Keep in mind all detail required to be reported upon in making a report of the appraisal, so that the farm will not have to be visited again to complete a report. A recheck of the appraisal form before leaving the farm is advisable to insure that there have been no omissions in the facts gathered.

#### Resume:

1. Locate the property and make a **location** map showing the relationship of the farm to the community as a whole.
2. Make a general agricultural survey of farms in the district and of the farm itself so that comparative adjustments may accurately be made in relation to the other farms in the community.
3. Make a detail inspection of the property determining its agricultural probabilities under typical operation. At this point detail is gathered for a **land use map** of the farm and a **soil map** of the farm, and a detail **building inventory** is made.

4. Interview the occupant of the farm to obtain actual yields and other historic data, and for all detail necessary to complete an appraisal of the farm as under typical operation. Thoroughly check the information with other reliable sources of information.

5. Interview the Municipal Secretary for information on taxes, assessments, outstanding debentures and any other municipal government costs chargeable against the farm. Check all confidential information obtained from other sources with the Municipal Secretary.

6. Carefully retrace all major observations made in making the field inspection. Record any additions and corrections necessary to make an accurate and complete report on the appraisal assignment.

## APPRAISAL REPORT

### An Adaptation of the Appraisal System of the American Society of Farm Manager and Rural Appraisers as used in Western Canada in 1939.

Zone — Winnipeg	Reference Number — S.A. 7182
Name of Account — John A. Wallman	Company—National Trust Co. Ltd.
Legal Description — All Sec. 4, Tp. 8, Rge. 1 West of the First Meridian.	Province — Manitoba
Occupant — John A. Wallman	Date — June 25th, 1940.
Terms of Occupancy — One-half share crop sale agreement.	

**LAND**                      614 acres of land now cultivated  
                                  10 acres arable not under cultivation  
                                  4 acres non-tillable land

—  
 628 TOTAL ACRES OF FARM  
 98% of land now cultivated.

### VALUATION SUMMARY

INCOME VALUE when capitalized at .....	%	-	\$.....
COMPARATIVE ADJUSTMENTS:			
Location or economic use	-	-	-
Home or non-economic use	-	-	-
Basic value, per acre \$.....	-	-	-
			Total \$.....

### APPRAISAL CERTIFICATE—American Rural Appraisal System.

We hereby certify that this appraisal has been made in conformity with the Rural Appraisal Standards of the American Society of Farm Managers and Rural Appraisers. We have no present or contemplated interest in this or other property, or other interests which would affect the statements or values except ..... After a complete and detailed inspection of the property and after weighing all factors herein reported to the best of our knowledge and experience, it is our opinion the value of this property on June 25th, 1940, was as shown on this page.

Signed.....

## BASIS OF APPRAISAL

### THE APPRAISER

An appraisal is an opinion. Its worth is dependent on the experience and reputation of the individual or organization giving the opinion. A properly qualified appraiser must have, first — technical ability, and, second — irreproachable integrity.

### SOURCE OF VALUE

The value of a rural property is drawn from three sources, (1) earnings, (2) location, and (3) home uses.

### EARNINGS

The earning value of a rural property is determined by capitalizing the estimated net money income under typical management at a fair rate of return. Usually the capitalization rate is approximately the going mortgage interest rate, of the region where the property is located.

Net money income is estimated by deducting from the typical annual rental income the normal expenditures which an owner must make. On properties normally renting on shares, the price received for products greatly influences the rental income. An appraiser, since he is not in position to forecast what prices are going to be, is obliged to base his judgment on what prices have been in the past. Usually, average prices received by producers over a five to ten-year period are used. Unless otherwise requested, and shown in the appraisal, our estimates of earnings are based on prices for not less than five, or more than fifteen years immediately preceding the appraisal.

### LOCATION

Under location are considered those factors of an economic or commercial nature, which affect value. These include distance and kind of roads to markets, kind and usefulness of improvements, availability of labor in the community, etc. These items are accounted for in value by making adjustments up or down from the value derived from earnings.

### HOME USES

Home features are those non-commercial items which add to or detract from the desirability of a farm as a home. These include attractiveness and utility of house and yard, recreational and scenic features, schools, churches, etc. In arriving at value these features are accounted for in the same manner as the location factors.

### BASIC VALUE

The basic value of a rural property is its worth derived from earnings under typical operation and from location and other economic and home uses.

### TYPICAL

Typical is that which most frequently exists, or occurs, in the particular situation under consideration.



**I.—FACTS SUPPORTING EARNINGS****A.—Soils****SOIL PLAT****DESCRIPTION OF SOIL**


Topography, Drainage,  
Erosion, Stone, Gravel,  
Alkali:

(Soil data prepared by  
Prof. J. H. Ellis and  
Colleagues, University  
of Manitoba).

Series:      Texture:      Color:      Depth:      Subsoil;      Acres:      Rating:

NOTE: In provinces where series have not yet been defined, the first column will not be completed. Until soil production ratings have been established by authority, opinion of the production rating of the soil on the farm being appraised will be noted by the appraiser, using the following as a guide: 1 is best, 10 is poorest. Below 4 is not ordinarily well adapted to crops.

**DESCRIPTION OF SOILS OCCURRING ON**  
**Sec. 4, Tp. 8, Rge. 1 West**

**Prepared by PROF. J. H. ELLIS, Dept. of Soils, University of Manitoba.**

The soils present on this section have developed on heavy textured lacustrine clay, formerly deposited in the bed of glacial lake Agassiz. All the soils belong to the Red River Soil Association; the characteristics of the respective soil types or associates present have been determined chiefly by differences in the degree of drainage. Four soil associates occur, that is, (a) Red River Clay, (b) McTavish Clay, (c) McTavish Clay, less well drained phase, and (d) Osborne Clay.

**RED RIVER CLAY**

Red River Clay is the "**well drained associate**" and has been developed under tall prairie grass-land vegetation. The typical soil profile shows the following features:

0—7 or 10" Black to very dark brown clay; finely granular above to more coarsely granular below; friable, neutral in reaction.

7 or 10" Brownish drab clay, coated with infiltration of surface soil; and

to 18" + with tongues of surface material intruding from above, (due to the cracking of the soil in dry seasons) coarse columnar structure when dry; moderately friable alkaline in reaction.

18" + Drab to brownish heavy clay, massive and plastic; with flecks of small grey calcareous concretions; effervesces weakly with HCl acid but increases in vigor with depth. This brownish drab color is a distinguishing feature of the well drained member.

The Red River Clay occupies the slightly higher or better drained position occurring in the otherwise flat plain. It is an excellent agricultural soil with apparently no outstanding production problems.

#### McTAVISH CLAY

The McTavish Clay is the "**intermediately drained associate**" of the Red River soil association and has been developed under meadow prairie conditions. The soil profile shows the following characteristics:

0—6 or 8" Black clay; finely granular to crumbly aggregates; moderately friable when moist, but may be somewhat cloddy when dry.

6 or 8" to 10" Brownish drab clay tongued slightly from above horizon; moderately friable; finely fragmental; grades rather indefinitely into or 14" +

10 or 14" + Olive drab heavy clay; massive and plastic; with some small whitish grey calcareous concretions that increase in size with depth.

This soil type was originally a meadow prairie soil. It is progressing in development from an intermediately drained to a well drained condition; and has a similar production capacity to the Red River Clay. However surface drainage is essential to its successful management; and in wet seasons seeding may be delayed.

McTavish clay in local areas may also show a tendency to develop into a Morris clay. McTavish clay is tough, waxy clay in which, due to weak alkalization, a dark soluble humus of the surface soil is leading downwards. Where this occurs the upper portion of the dark soil is dull black to greyish black. The granular aggregates of the lower part of the dark portion of the profile are coated with dark sticky tar-like soluble humus. The surface of the McTavish clay is heavy to work and harsh and cloddy when dry. These characteristics of the Morris clay may be seen feebly expressed in much of the McTavish clay.

#### McTAVISH CLAY (Less Well Drained Phase):

McTavish Clay (less well drained phase) is a less well drained soil than the typical McTavish clay. It occupies a slightly lower position in the field but it is better than the poorly drained Osborne Clay.

It is characteristically more shallow than the typical McTavish, having 4 to 7 inches of black fairly friable clay, high in organic matter when first broken up. Tongues of the black surface soil intrude into the underlying drab clay that has an olive cast and is often iron stained.

This soil requires thorough surface drainage for its successful cropping. It is liable to delayed seeding in normal years and to surface flooding in wet years. When adequately drained, cereal crops do well on this soil; but under continued cereal culture the surface soil becomes heavy to work.

#### OSBORNE CLAY:

Osborne Clay is normally the "**poorly drained associate**" of the Red

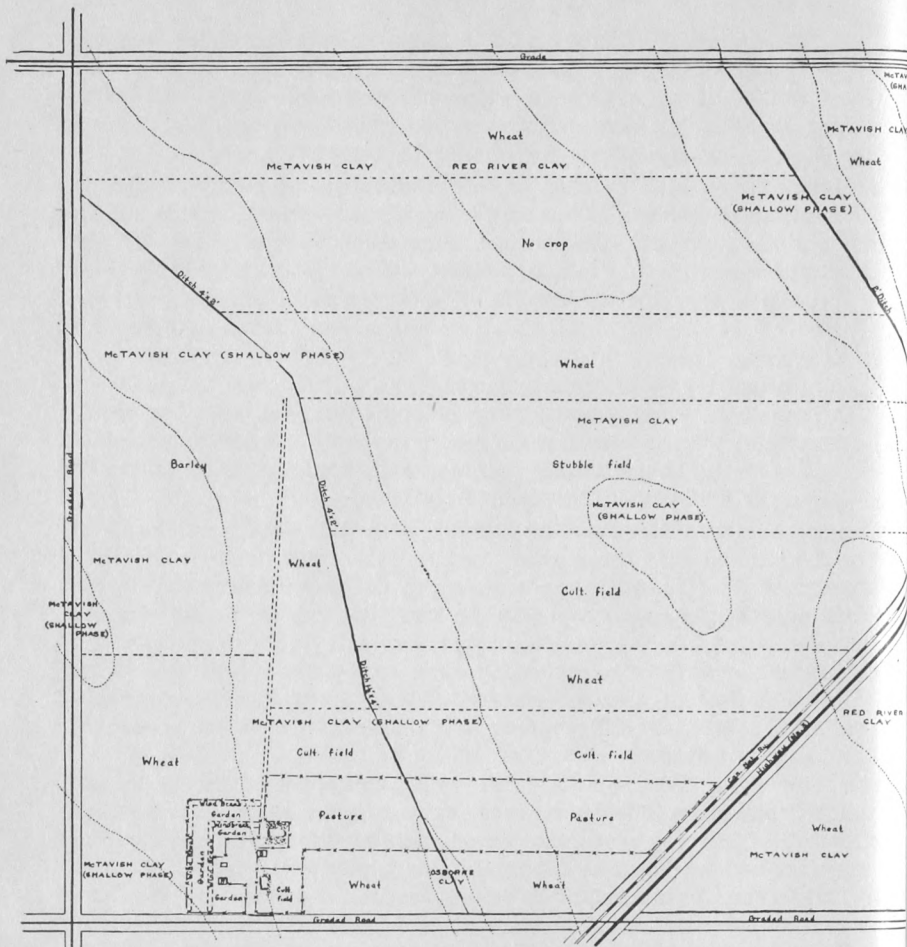
River soil Association, developed under swale grasses and meadow vegetation. It is characteristically a shallow soil with a grey iron stained subsoil when wet. It may assume a somewhat brownish drab color after several dry seasons, but becomes grey when again subject to continued wetting. The soil profile shows the following features:

0—4 or 6" Black clay which extends in thin short tongues into the subsoil; neutral in reaction. This clay is mucky and friable in the virgin condition but stiff after being cultivated for several years. In the virgin condition the soil may have two to four inches of peaty or mucky sod mat at the surface. However, this may have been destroyed by fire, in which case the soil is less friable and heavier to work.

4—6"+ Grading irregularly into grey (to grey drab) heavy clay, cloddy when dry, plastic when wet; contains iron concretions in small specks and streaks and has a marly carbonate layer immediately below the black A horizon due to rise of ground water; effervesces strongly just below the black A horizon.

This soil has a surface flooding hazard. Formerly water was liable to stand on the surface after the snow melted (or after heavy rains) for a considerable time. The drainage has been improved by open ditches. At the present it is developing from a poorly drained type into an intermediately drained type. It required thorough surface drainage, and if organic matter is provided in the form of barnyard manure, sweet clover and grasses, is fairly productive when properly drained. When newly broken it is friable, but after a few years of cropping and fallow the soil becomes tough, waxy and difficult to work.

The soils of the Red River Association are developed on fine lacustrine clay that settled in the deep part of the lake Agassiz basin. Hence, with the exception of the very occasional erratic boulder (dropped from floating ice), they are stonefree. The topography is typical flat lake bed topography, with the absence of well defined relief. However, as the lake waters receded, the action of waves and under-tow left their imprint on the surface by molding it into low broad clay ridges with intervening areas that are more flat. This micro relief of the surface is responsible for the differential positions of the otherwise flat topography. In wet seasons and after heavy rains, water may lie for some time on the flatter or slightly depressed areas, unless prevented by adequate open drains. These areas can be easily recognized by the greyer color of the subsoil and by the reddish brown concretions. Less than half a century ago much of this and the adjacent area was considered wet and subject to flooding by run-off waters from higher land to the west. This hazard is now fairly well taken care of by the system of open ditches which have been installed. It should also be pointed out that although these soils run from 10 per cent. to 14 per cent. of organic matter in the virgin condition, so that the soils are friable when first broken, the continuous growing of grain, alternated with summerfallow, results in a constant reduction of organic matter, and increased manifestation of the clay properties. Thus, with increasing time the soils become heavier to work and the internal drainage is arrested. In general, they are remarkably fertile soils, but the chief problem centres around keeping the soils in good physical condition.



Section 4—8—1W

**B.—Crops** Type of farming, crops, livestock, detriments. This is grain farm in a grain farming area. A minor live stock enterprise contributes to the needs of the family plus a small net cash revenue used for operating overhead.

Crop or Source	Crop Dist. Yields 10 yr aver.	Aver. Past. Exp. und. 10 yr. Yld. Typ. Man. on Farm Acres Yld.	Typical Rental (See Note Share at bot.)	Price (See Note Owner Income)
Wheat .....	16	16	$\frac{1}{3}$	\$.....
Oats .....	25	16	$\frac{1}{3}$	\$.....
Barley .....	21	14	$\frac{1}{3}$	\$.....
Fallow .....	—	—	$\frac{1}{3}$	\$.....
Pasture - - -	-	-	-	\$.....
Buildings and ditches - -	-	-	-	\$.....
Rental Terms and crop expense, Owner's Total Gross Income \$.....				

**C.—Expenses**

Real Estate Tax :Assessed value \$8,300.00; Year 1940 Tax \$357.89

Expected Tax over period of years - - - - - \$.....

Insurance rate.....	Coverage.....	-	-	-	\$.....
Mangmt.....	Depreciation of Bldgs. and Maintenance.....%	-	-	-	\$.....
Seed.....	Threshing, delivery charges, etc.....	-	-	-	\$.....
(Note: Average price based on Federal Government statistics for past ..... years at point of shipment from farm)					
Owner's Total Expense	-	-	-	-	\$.....
Owner's Net Earnings	-	-	-	-	\$.....
Income value when capitalized at .....	%	-	-	-	\$.....

## SECTION 4-8-1 W

Acreage of each soil shown on soil map of farm:	Approximately	No.	Crop	Approx. acreage
Red River clay (well drained) .....	49 acres	1	Wheat .....	28.3
McTavish clay (inter- mediate drainage) ....	373 "	2	Wheat .....	71.2
McTavish clay (less well drained or shallow phase) .....	215 "	3	No crop .....	85.7
Osborne clay (poorly drained phase) .....	3 "	4	Wheat .....	49.4
Total.....	640 "	5	No crop .....	71.2
		6	No crop .....	56.6
		7	Wheat .....	25.9
		8	No crop .....	29.5
		9	Pasture .....	27.8
		10	Wheat .....	17.5
		11	Wheat .....	37.1
		12	Barley .....	67.5
		13	Wheat .....	34.8
		14	Wheat .....	14.9
		15	Farmstead & paddocks	9.7
		16	Railway right-of-way and highway .....	12.9
			Total.....	640.0

"A"

## BRUNKILD DISTRICT

## CROP YIELDS

Year	Wheat	Oats	Barley	Actual Yields Produced on the farm Sec. 4-8-1W.		
1925	17	35	25			
1926	23	32	30			
1927	7	25	25	Wheat	Oats	Barley
1928	10	30	20	11	25	5
1929	11	23	18	—	—	—
1930	20	30	25	—	12.1	8.8
1931	15	20	15	13.7	13.9	13.5
1932	12	15	12	15	14	6.5
1933	12	18	17	15.7	8.5	2
1934	17	25	25	29.7	18.5	8.8
1935	8	25	30	10.1	15.4	16
1936	16	20	17	13.9	17	13.1
1937	20	23	27	20.4	23.8	27.4
1938	11	27	25	11.7	23	20
1939	22	25	21	21.2	18.3	22.3
10-Year				10-Year Aver.		
Av. ....	15	24	21	16.	16.4	13.8
15-Year ....	15	25	22	5-Year Av.....	19.5	19.8



**SANFORD EVANS STATISTICAL SERVICE  
YIELDS FOR BRUNKILD STATION**

"B"

10 year average

15 year average

Wheat	Oats	Barley	Wheat	Oats	Barley
15.3	23.5	21.4	14.7	25.2	22.1

"C"

**TAXES 1931—1940**

Year	Municipal	Drainage Maintenance	Drainage	Total
1931	\$205.46		\$222.23	\$427.69
1932	180.13		224.11	404.24
1933	148.35		171.06	319.41
1934	156.29		171.73	328.02
1935	160.09		171.73	331.82
1936	166.31	\$39.63	113.22	319.16
1937	165.62	23.58	113.22	302.42
1938	203.84	39.56	113.67	357.07
1939	224.68	40.19	113.67	378.54
1940	201.61	40.32	115.96	357.89

Average 10 years.....\$352.61

Drainage—25 year debenture—issued 1936 due 1961 (21 years still to pay)  
\$2.67 per acre still owing, principal to be paid in 21 years, 4½%.

**II.—FACTS SUPPORTING COMPARATIVE ADJUSTMENTS****Adjustments for Location  
or Economic Use**

1. Location, Markets, <sup>Rge.</sup><sub>8</sub>  
Roads, Transportation,  
Community.

Nearest Market: Brun-  
kild, 2½ miles (1½ m.  
Hwy. No. 3 & 1 m. earth  
rd.) Population .....100

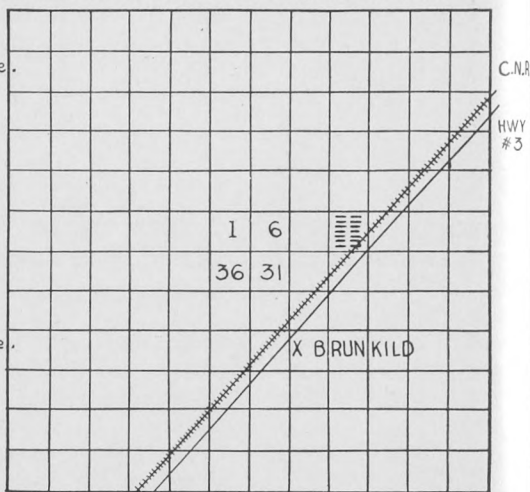
Country seat or Prin-  
cipal town: Winnipeg, 25  
m. (24½ m. Hwy. No. 3—<sup>Rge.</sup><sub>7</sub>  
½ m. earth rd.). Popula-  
tion .....215,814

Metropolitan Center:  
Winnipeg, 25 miles (see  
above) .....215,814

Milk route, mail routes, bus lines, markets, outside employment, reputation  
of community as to thriftiness, honesty, co-operation, nationalites, avail-  
ability of electricity, telephone, arable land not cultivated.

Daily bus service to Winnipeg from farm over Hwy. No. 3. Good Com-  
munity. Telephone. Three grain elevators at Brunkild. No Hydro-Electric  
Line or mail route past the farm. Effect Plus \$..... per acre.

**2. Improvements,** additional influence of permanency and adequacy,  
location, farmstead layout, commercial orchards, fences, kind and location,  
field arrangements. Water supply, wells, springs, ponds, quality of water,  
waterworks.



3. **Comparison with neighboring farms,** physical features, natural resources. Typical size of farms, comparison as to topography, productivity, improvements and type of farming, natural resources such as timber, gravel, etc. Effect ..... - \$..... per acre.

### Adjustments for Home or Non-Economic Uses

House is below the average for the community. It is 45 years old and difficult to heat. It is planned to replace this house this year.  
Effect plus \$..... per acre.

Consolidated school at Brunkild teaching up to entrance to University. Good neighborhood of mixed racial origin. Protestant church 3½ miles from the farm. Effect ..... - \$..... per acre.

### PLAN OF FARM

NW¼ — Sec. 4; Tp. 8; Rge. 1W. — NE¼

### D. Buildings

- Small stream

## Railway

Barbed wire fence

oven wire fence.

rv

10

house

ken house

## Machine shed

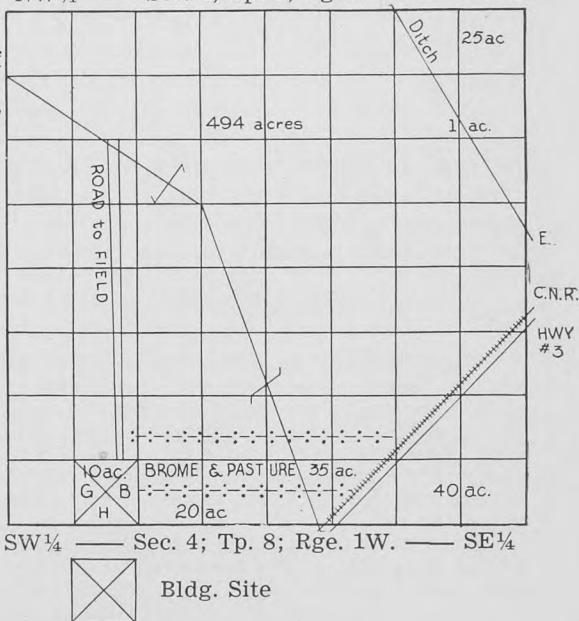
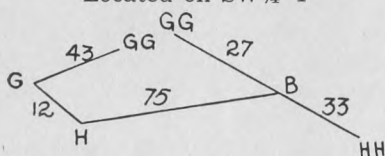


DIAGRAM OF BLDGS. AND  
DISTANCE APART IN YARDS:

Located on SW  $\frac{1}{4}$  4



Post Office .....	Miles	2½	Brunk
Trading Centre .....	"	2½	"
Elevator .....	"	2½	"
School .....	"	2½	"

VALUATION OF BUILDINGS

Reproduction cost, less observed depreciation and obsolescence.

Kind of bldg.	Construc-	Dimensions	Paint-	Found-	Con-	Pres. Rep.
Rms. & stories	tion	Roof wd.-lgth.-ht.	ed	ation	dition	Age Val. Val.
House, 5 rms	frame	shingle 18x24x14	poor	blocked	poor	45 .....
2 stories & leanto				on stone		
Barn, conc. fl. Horses 10, catt. 12, 2x4 studs & rafters, leanto for 50 head poultry.	frame	shingle 26x44x12 (lean) 12x16x 8	good	concrete	good	7 .....
			good	on stone		3 .....
Hog house	frame	shingle 10x16x 7	no	skids	poor	— .....
Granary	frame	shingle 14x20x10	no	skids	fair	— .....
Granary	frame	shingle 14x20x10	no	skids	fair	14 .....
Granary	frame	shingle 10x16x 8	good	skids	good	7 .....
Granary	frame	shingle 12x16x 8	good	skids	good	6 .....
Garage & Woodshed	frame	shingle 14x18x 7	fair	blocked	good	3 .....
			no	on stone	fair	— .....

Chimneys: Kind — Brick: Bracket or full — Bracket

Condition, one poor, the other fair.

Lightning rods on bldgs. numbered — No rods.

Total Buildings - - - - - \$..... \$.....

RECAPITULATION

624 acres of land now cultivated at aver. price of \$..... per acre \$.....  
 ..... acres arable not under cult. at aver. price of \$..... per acre .....  
 4 acres of non-tillable land at average price of \$..... per acre .....  
 628 Total acres in farm. Value of buildings to farm - - - .....

TOTAL VALUE OF LAND AND BUILDINGS - - - \$.....

Recapitulation as indicated above is not provided for in the regular form as used by those using the American System of Rural Appraising. It may, however, be appended to meet the special needs of a client.

The above partially completed appraisal form shows much more detail than is usually given in the appraisal of a farm by this method. For purposes of this demonstration it is designed to show in detail a step by step logical and analytical process by which a farm in Western Canada may be appraised.

Data used in partial completion of the above form is taken from an actual appraisal of the Specimen Farm used for demonstration purposes and was appraised by all in attendance during the first day of the Conference.

# Appraisal Plats

By HERBERT PIKE

Bankers Life Company Des Moines, Iowa

The preparation of plats is commonly called the "plumber's work" of appraising. One look at this display of maps, pipe wrenches, and other gadgets should serve to explain why it is termed "plumber's work". The resulting plat is essentially a technique which the appraiser employs to better inventory the property and present his findings.

Just as we have all types of plumbing, from the mere essentials to the most deluxe creations in pastel shades, we find all degrees of artistic ability among appraisers. However, the ability to draft a "pretty" plat is not necessarily indicative of the experience and judgment required to be a good appraiser. In fact, there is the danger that an appraiser who spends too much time on the details of a plat may tend to slight some of the more important parts of the investigation.

But I do feel very definitely that one of the attributes of a good appraiser is the ability to make a clear and accurate map. Like the familiar saying, "Clothes make the man", so does a neat plat make the appraisal report. I have observed that clients and loan committees tend to be unduly impressed by neat plats and other means of visual presentation. And on the other hand I have seen the efforts and judgment of good appraisers under-rated because their appraisal plats lacked the detailed plumber's work.

More often than not, the reader of an appraisal report has never seen the property himself. He may not even be able to visualize the locality or the type of farm. Admitting a natural tendency toward mental laziness in the human animal, is it any wonder that the reader prefers to get his impression of the farm from plats and photos rather than from rhetoric and figures? In view of this preference, the appraiser might well add to his professional stock some skill in presenting a favorable report. Unfortunately, appraisers seldom get a good grounding in draftsmanship unless they happen to have been trained as engineers, but anyone who is willing to invest a few dollars in equipment and spend a few hours in practice can turn out quite creditable work.

The steps in preparing an appraisal plat consist of the work done in the field, followed by what may be termed office work. In making the field sketch, accuracy and completeness are the prime essentials. While on the ground the appraiser should gather all essential information and show the different areas in true proportion on the base map. As every effort should be made to conserve time and energy, a sectional outline form, printed on heavy durable paper, is a great help in the field. If an accurate base map can be obtained from an aerial photo or other source, that too, is a great time saver.

In going over the farm, it is important to know one's approximate location at all times. For this purpose some reasonably accurate means of measuring distances within the boundaries must be employed. One of the most primitive and probably the most practical method of measuring

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for appraisal work is pacing. For this work, a good pair of size nine feet may be considered standard and necessary equipment.

Start off with one foot and count each time the other foot hits the ground. Adopt an easy, natural stride and find your individual conversion factor by pacing a measured distance. For instance, I get about five steps, or two and one-half paces to the rod. To convert paces into rods I need only divide the number of paces by  $2\frac{1}{2}$ , or easier yet, multiply the number of paces by 0.4. You will find a mechanical tally handy for recording the number of paces. This little gadget can be carried in the hand and records each time the button is pressed. Some saddle horses have quite a uniform pace and can be used to advantage in traversing ranches or other large areas.

The rod meter attachment for automobiles is useful in checking distances along a road or fence line. To be accurate, the meter should be attached to a gear on the front wheel rather than the different gear, and frequently adjusted for changes in tire pressure and wear.

In subdividing a known distance of 160 rods, for example, the proportional method can be used to advantage. Standing at right angles to the known distance, the appraiser can sight over a ruler held at arm's length and get proportional measurements. If the known distance of 160 rods measures 10 on the ruler and the unknown part 6, we know the latter is  $6/10$  of 160, or 96 rods. Counting fence posts, which are usually about a rod apart, is another easy way to estimate distance.

For appraisal purposes, I feel that chaining with a steel tape or using a cumbersome measuring wheel is too slow and results in more accurate results than are necessary. Nor can we afford the luxury of a caddy, so field equipment must be kept to a minimum, else the appraiser may bog down about the seventh hole.

A very rapid and effective method of platting, especially in irregular or inaccessible areas, is with a plane table, an instrument which is standard equipment for soil survey work. While this might appear a cumbersome method, the tripod is much lighter than a transit and provides a handy work table for field sketching. The use of the plane table is based on triangulation. Starting from the boundary of a farm or other base line of known or measured length, we can set up at one end, orient the table from the compass, and draw rays to different land marks or fence corners along a ruler with peep sights, known as an alidade. Then, setting up at another known point we change our position on the map and sight back to the same land marks and locate them on the map at the point where the rays cross. The accuracy can be checked by sighting from a third known point, which usually results in a small triangle of error where the rays intersect. Similarly, one can set up at an unknown point and locate it on the map by sighting to two or more known points. Although distances on the ground are many times greater than map distances, the angles remain the same.

Even without a plane table, the same principle can be applied to get angling fences by roughly orienting the clip board on top of the corner post and lining up a ruler with the angling fence. In brush and timber the use of the plane table is limited, due to lack of visibility and difficulty in carrying it. Here, the appraiser may be able to employ to advantage



## FARM APPRAISAL PLAT

Farm Name _____	Occupant _____	Land Use _____	Acres _____
Legal Description: _____		Crop Land _____	
		Perm. Pasture' _____	
		Building Lots _____	
		Roads _____	
		Waste _____	
Postoffice: _____	County: _____	State: _____	Total Acres _____

Scale: 40 rods to 1 inch

## SUGGESTED LEGEND

## BOUNDARIES

Farm Boundary - - - - -  
 Boundary, Div. Line (no fence) - - - - -  
 Soil Type Boundary - - - - -  
 Section or Survey Line - - - - -  
 Section Center - - - - - (10)

## WORKS AND STRUCTURES

Public Road - - - - - (show surfaced roads in red)  
 Private Road - - - - -  
 Bridge - - - - -  
 Railroad - - - - -  
 Pipe Line - - - - -  
 Fence - Woven Wire - - - - -  
       Barbed Wire - - - - -  
       Hedge - - - - -  
 Farm Buildings: House ■ Barn ▲ Other □  
 Community: School [S] Church [C] Cemetery [T]

## COVER

Cleared Land - - - - - C  
 Wet Land - - - - - W  
 Brush - - - - - B or  
 Trees, Timber - - - - - T or  
 Fruit - - - - -  
 Rock - - - - -  
 Erosion - - - - -

## LAND USE

Tillable, if and when cleared ( Brown )  
 Not Practicable to Till ( Green )  
 Waste or Barren Ground ( Orange )

## DRAINAGE AND WATER (Blue)

Permanent Stream - - - - - (crossable)  
 Intermittent Stream - - - - - (crossable)  
 Lake, Pond, Slough  
 Drainage Ditch - - - - -  
 Tile (show size) - - - - - 5" 10"  
 Well - - - - -  
 Well with Windmill X  
 Spring, Flowing Well  
 Reservoir - - - - - (R)

## QUALITY OF LAND

Shading  
 Best Good Average Fair Poor  
 Color  
 Blue Green Brown Orange Yellow

## ACREAGE GRID

For Estimating Irregular Areas


Each Square (12.65 rods) Equals One Acre

This map is based on my personal and careful inspection of the property:  
 Date Inspected \_\_\_\_\_ Signed \_\_\_\_\_

a pocket compass for reading angles, both vertical and horizontal.

The plat form shown was designed to be the first page of the appraisal report, so the heading identifies the report as well as the farm shown on the plat. Ordinarily, the legend would be printed on the margin in small type or on a separate sheet. The boundaries of the farm, roads, fence, tile,

and location of farmstead, constitute the principal features to be shown on the base map. The section outline is scaled eight inches to the mile, a convenient size, and it has an added advantage in that it coincides with the scale of the AAA aerial maps often available to appraisers in the States. Some prefer to show land use or quality of land on the base map and soil boundaries on a separate map. However, where a fairly large scale is used, I am inclined to believe the soil boundaries can be added to the base map without materially detracting from the clarity of the map. This results in one large map rather than two small maps, and certainly much repetition and detailed work can be eliminated if all features can be shown on one map. A number of organizations contend that mapping soils is beyond the scope of an appraiser, that he is interested only in soil productivity, not in soils as an end in themselves. However, in order to estimate accurately the average productivity of the entire farm, it is helpful to map the different soil types, especially the boundaries between types of unequal yielding ability, and even segregate widely varying conditions with the same type. With the boundaries drawn to approximate scale on a map, it is possible to estimate quite accurately the acreage of each soil condition.

On the appraisal plat, it may also be desirable to show slope and depth of surface soil, as is being done on the newer county soil maps.

These are usually coded on the map in the form of a fraction— $\frac{138}{B-2}$ —the top number referring to the soil type, the letter to the slope classification, and the lower number to the depth of surface soil or degree of erosion. Although a hand level or slopometer are needed for accurate readings, the appraiser should learn to estimate slope fairly accurately with his eye.

So much for field operations, we are now ready to draft the finished plat, which is usually done in the office under more favorable conditions. Clarity and neatness should be incorporated into the complete and accurate field sketch. Therefore, it will usually be advisable to trace or copy the field sketch. Tracing on transparent paper is an accurate and rapid method from which additional prints can be made at small cost. (Tracing paper can also be used to advantage in copying aerial photos). If the plat is to be traced onto the usual printed form, it is helpful to have a piece of frosted glass illuminated from below by an electric light.

To be clear, a map should have three dimensions. In addition to vertical and horizontal lines, the third dimension should be employed to show items of contrasting importance by varying the width or type of line. For instance, interior fences can be subordinated to the boundaries of the farm by using a lighter line. Color shading or crosshatching is another application of the same principle. Boundaries and structures are usually shown in black, drainage and water in blue, and land use by means of colored shadings.

For measuring irregular areas, a grid, scaled one acre to the square, (such as shown on the legend sheet) will be found quite helpful and is surprisingly accurate. Place it under the map and count the squares in each soil area. Fractional squares greater than a half should be counted and those under a half dropped. If there are a large number of areas to

be figured or greater accuracy is desired, the use of a planimeter may be justified. This instrument, commonly used by civil engineers, has a tracer arm for traversing the area on the map, and a recording dial from which the acreage can be read direct. It can be adjusted to different scale maps.

Supplementing a plat of the property appraised, it is often desirable to include a smaller scale map of the township or locality, showing roads, markets, and areas subject to flood or other hazards. In most counties, letter-sized maps can be obtained at small cost and included in the report to clarify the narrative discussion of the community. Where a good map can be purchased or photoed, I believe it is economy to add pertinent information to the existing map and include it directly in the report rather than spend time in copying the map or making a location plat.

Loan organizations may find it worthwhile to plat existing loans and real estate on county maps as an aid in underwriting future applications in the area. For example, on a large county map with a scale of one-half inch to the mile, each farm is outlined in black ink and identified by a typewritten number alongside. The number is written on a special gummed tab which can be removed, should it be necessary to spot another farm in its place. This master map is a permanent record and is not colored or subjected to use. From it are made reduced photo copies to be distributed to the staff or included in appraisal reports as supplementary information.

A color code may be employed on the photo copies to designate loans from real estate, or classify farms on the basis of such factors as value per acre, productivity, or percent tillable. In general, color codes or crosshatchings denoting quality should shade from dark to light, as suggested on the legend sheet. Brown has been selected for the high frequency average group, blue and green for above average, and two other closely related colors, orange and yellow, for below average. Assuming the farms studied will follow a normal distribution about the average, I think there is some advantage in having an odd number of classes. With an odd number the large number of average cases tend to fall in the central class, rather than at the breaking point between two classes as in an even-numbered grouping.

Where it is desired to study several related factors in the same area, such as in land classification, it may be helpful to prepare a transparent overlay for each factor and superimpose them all on a base map. In mentioning color codes and overlay maps, I have digressed a bit from the appraisal report proper, but I feel that this technique can be very useful in making geographical comparisons and other appraisal background studies.

I have tried to "rough in" for you some of the essentials of the appraiser plumber's trade. Having concentrated on the principles of good plumbing, I leave the selection of fixtures to the taste of the individual appraiser. To those interested in joining the union, still at appraiser's wages, I would say that what I might term "gadget curiosity" is about the only requisite. In closing, again let me emphasize what I consider to be the essentials of a good plat—completeness, accuracy, clarity, and neatness.

# The Earning Statement

W. J. SMITH, A.R.A.

Winnipeg, Manitoba, National Trust Company, Limited

The part in this panel assigned to me is the preparation of that part of the appraisal that has to do with the earning statement, or, in other words, an estimate of what the farm can be expected to produce with typical management under average conditions.

Having been closely associated with this property for the past 12 years I am naturally in a much more fortunate position than I would be in making the usual farm appraisal or that of any other appraiser seeing this farm for the first time. I have the advantage of having the actual yields of the various crops produced on the farm year by year during the period and I know the history and weather conditions behind them.

The main factors we have to consider in estimating the average yield a farm can be expected to produce are:

## **1. The Quality of the Soil and Subsoil**

The soils are described by Professor J. H. Ellis, Dept. of Soils, University of Manitoba. A well-prepared soil map is invaluable in preparing an earning statement. We find approximately 49 acres are Red River Valley clay, well-drained; 373 acres McTavish clay, intermediate drainage; 215 acres McTavish clay, (shallow phase) and a small area, approximately 3 acres, Osborne clay.

## **2. The condition of the Soil**

This will be dealt with when the earning statement is being made up.

## **3. Weed Infestation**

The noxious weeds we have to deal with here are sowthistle, mustard and wild oats—these also influence yield and grade.

## **4. Rainfall of the District and Moisture Efficiency**

The rainfall or moisture efficiency in the Red River Valley can be considered to be reasonably favorable to the growing of small grains which is predominately the type of farming carried on. The average rainfall is approximately 19".

## **5. Drainage Situation with Regard to the District and the Subject Property**

The subject property we have under consideration is in the heart of and typical of much of the land of the Red River Valley. I think possibly the greatest hazard we have to contend with in this area is drainage. While much can be revealed from the condition of the soil, wherever possible it is advisable in making an appraisal of a farm under conditions found here to obtain access to a drainage map showing the topography and levels. These heavy textured soils with a flat topography present a very definite drainage problem. The percolation of water is retarded or slowed down, which has a direct influence on crop yield.

Those of you who have visited this farm will have observed it is very flat; the whole area is flat. The blue-print here shows the drainage problem quite clearly. There is very little, if any, natural drainage; the fall is less than a foot to the mile. Nevertheless, by reference to this map and on the advice of the District Engineer, the drainage of this farm was

very materially improved in 1931 and 1932 by the construction of these lateral drains that can be seen marked on the plat.

#### 6. Other Hazards

These would include rust and hail. For the time being at least, we believe we have, thanks to our Rust Research men, conquered the rust menace; and hail has not seriously affected this area.

Having from our inspection of the land satisfied ourselves on all these factors, our next step is to estimate the acre yields of the various crops under the usual rotation practised in the area, always having in mind typical management. If the farm is not typical for the district, we must visualize the typical operator for that farm.

We find the average yields per acre for the Brunkild district for the years 1925 to 1939, both inclusive, as given by the Sanford-Evans Statistical Service, and the actual yields produced on the farm as long as we have actual record, to be as follows:

#### BRUNKILD DISTRICT

	Wheat	Oats	Barley	Actual Yields Produced on The Farm Sec. 4-8-1 West		
1925	17	35	25			
1926	23	32	30			
1927	7	25	25	Wheat	Oats	Barley
1928	10	30	20	11	25	5
1929	11	23	18	—	—	—
1930	20	30	25	—	12.1	8.8
1931	15	20	15	13.7	13.9	13.5
1932	12	15	12	15	14	6.5
1933	12	18	17	15.7	8.5	2
1934	17	25	25	29.7	18.5	8.8
1935	8	25	30	10.1	15.4	16
1936	16	20	17	13.9	17	13.1
1937	20	23	27	20.4	23.8	27.4
1938	11	27	25	11.7	23	20
1939	22	25	21	21.2	18.3	22.3
10-Year						
Av. ....	15	24	21	16.	16.4	13.8
15-Year ....	15	25	22	5-Year Av.....	19.5	19.8

It will be noted while the wheat is above the average for the district, oats and barley are considerably below. It is very rare that an appraiser would find such a complete set of figures with regard to yields on which to set the estimate, but, having secured them, he would have to satisfy himself as to the reason for the discrepancies on the yields of coarse grains. The reason may be the farm, for some reason or other, is not so suitable for these crops as the district as a whole; drainage may have something to do with it, particularly in the growing of barley, or, it may be the weed condition.

The reason for the situation here goes back to a little earlier history of the farm. The precipitation during 1926-27 and 28 was exceptionally generous and much above normal which interfered with the cultivation of many of these farms. The soil became more or less waterlogged. In 1928 there was no summerfallow on this farm. Sweetclover had never



been tried, and the weed situation was exceptionally bad. The lateral drains were not then in.

I find oats and barley in 1931 were put in on spring plowing. In 1932-33 & 34, the weed situation was still troublesome and we had the grasshopper menace, which did considerable damage to coarse grains. In 1935, while early prospects were good, rust and heat were the deciding factor, greatly depreciating the crop. Durum wheat lodged badly and some never cut.

Taking all these factors into consideration, comparing the condition of the farm now with earlier years, realizing a substantial acreage of wheat has been grown on summerfallow each year, and consequently wheat has shown a greater response to better cultural methods than coarse grains would do, I have estimated under typical management today the farm should produce 16 bus. of wheat per acre, which is approximately the 10 year average; 20 bus. of oats and 20 bus. of barley per acre, which is the 5-year average.

We now proceed to set up our earning statement.

At this stage I should like to make this observation: The appraisal of land is more than the process of arriving at the quality and texture of the soil and suitability for crop. It is the correlating of these qualities with long-term prices the commodities it produces will realize on local or world markets. This naturally requires a study of not only long-term prices of farm commodities in relation to present supply and demand, but also the prospects of an equilibrium being maintained between supply and demand. Until quite recently, I would venture to say a concept of prices extended no farther than daily market quotations, and land valuation was difficult in the extreme. With the wide fluctuations in grain markets of recent years, valuation, of necessity, became a more scientific study.

Under typical management, this property would be operated on a four-year rotation, as follows:

		Expected			
		Yield	Total	10-Yr. Price	
		Per Acre	Yield	Per Bushel	
292 acres	Wheat .....	16	4,672 No. 2	72¢	\$3,363.84
46 "	Oats .....	20	920 No. 1 Feed	24¢	220.80
100 "	Barley .....	20	2,000 No. 4 C.W.	30¢	600.00
146 "	S. Fallow .....	—			—
					<hr/>
					\$4,184.64
					<hr/>
					One-Third Crop .....
					1,394.88
					<hr/>
Taxes .....			\$ 357.88		
Fire Insurance .....			8.60		
Management .....			94.20		
Maintenance .....			80.00		540.88
					<hr/>
Capitalized at 6% .....					\$ 854.00
					<hr/>
Value as the Result of Earnings .....					\$14,233.00

It will be noted in this statement of earnings I have used "2 Nor. Wheat; No. 1 feed Oats and No. 4 C.W. Barley with the average price over a ten-year period. I should at this point clarify the reasons for so doing.

Grain growing is the main agricultural pursuit of the farmers of Manitoba, Saskatchewan and Alberta. — Wheat, Oats and Barley and, to a lesser extent, Rye and Flax.

Bulk shipments and bulk sales enable us to make accurate estimates of the quality of the grain that is produced and shipped from these farms and the price it realizes on the markets of the world. The Appraisal Institute of Canada made an analysis from Government statistics of the quality of all Wheat, Oats and Barley shipped through the Inspection Dept. of the Dominion Government as a guide for appraisers. It was found from the crop years 1923-24 to 1936-37, inclusive, on the average:

3.3% of our wheat graded No. 1 Hard.  
 27.2% No. 1 — 23% No. 2 and 13% No. 3 — or  
 53% of all crops graded No. 2, or better.  
 Oats—17% graded No. 1 & No. 2 C.W.  
     20% graded No. 3 C.W.  
     5.8% Exc. feed and spec. feed — 23% No. 1 feed.  
     On the average 65% graded No. 1 feed, or better.  
 Barley—31% graded No. 3 C.W. — 13% No. 4 C.W. while  
     23% graded malting in the 9-Year average.  
     67% of our Barley graded No. 4, or better.

The yearly percentages are all issued in the Institute Bulletin Service. The Institute further recommended, as a guide, the use of these grades based on the aforementioned figures for estimating land value. The reasoning behind this was that the bulk of the wheat crop, except that kept for seed, would be practically all marketed so that No. 2 grade for wheat would be fairly representative. With oats and barley it was assumed only 25% to 30% of the oat crop and 40 to 50% of the barley crop only would be marketed, that the highest quality generally would be marketed and lower grades retained for feed on the farm. Consequently, the typical grades of both oats and barley would be lower proportionately than wheat. I would emphasize these grades were only offered as a guide, and the appraiser must use his own judgment when appraising a farm.

The setting of a representative price is a little more complex than that of grade. The price of grain has widely fluctuated during the last 30 years. The 30-year average price of No. 1 Northern Wheat 1909-38 was \$1.23 per bus., basis Fort William. The 15-year average 1924-38, \$1.05; 10-year average 1929-38, 89¢ per bushel. The 22-year average, 1915-37, \$1.32. The 1909-1913 average price, 98¢. Oats and barley have fluctuated to a lesser extent. Which of all these prices shall we use in arriving at value? The Appraisal Institute has recommended the 10-year average price in its Bulletin Service as more correctly reflecting the present situation.

To get a true picture it would be useless to compare prices obtained now with those prevailing when conditions were entirely different, and which may include years of abnormal prices. Prices from 1916 to 1920, for example, ranged between \$1.60 to \$2.73 per bushel.

I do not wish to weary you with figures and statistics on world grain production and marketing, to do so would be outside the province of this paper. However, the Appraisal Institute early realized that without common ground on this question of prices, we could never hope for uniformity in values, no matter how experienced the appraisers, or what system of appraisal was used. A complete analysis was therefore made of the average daily closing prices for the months of September, October, November and December for the years 1909 to 1938, both inclusive, from Government statistics, and issued in bulletin form. Prices obtained in these months would be most representative as the bulk of the crop is sold by farmers during these months.

These figures were considered in conjunction with present world acreage increases, and the increase in acreages in the five major exporting countries, which include the United States and Canada, as compared with those of previous years. The past and present world production in bushels was considered in the light of world population increases.

The world carryover of wheat from year to year, and the position of the make-up of this carryover naturally plays a very definite part in the price the farmer will receive, and consequently has a corresponding influence on land value. All these factors were given their due weight. It was realized the more immediate preceding average prices would have more weight than those more remote.

There may be some amongst us here who feel the ten-year average price to be conservative. We would assure them all these circumstances have been taken into consideration by those responsible for the making of this recommendation. It may not have occurred to many of those not closely familiar with the situation that the Government pegged price in 1938 of 80¢ was used in these calculations which was quite correct whereas the market price during a proportion of the crop year was around 60¢. The grain situation may change quickly. While a large loss to the Government was anticipated in the disposal of the 1938 crop, a bonus payment on the 1939 crop appeared quite likely two months ago. The war will undoubtedly ultimately affect the price situation as European neutral countries are at war strength and many men who would otherwise be engaged in tilling the land are mobilized for emergency duty.

It is too early yet to estimate what this change will be. However, a review of prices at least once a year or oftener will be made, should circumstances appear to make it necessary.

The ten-year average price at present appears to be justified.

Let us look at all these appraisal problems logically. Logic is perhaps the greatest asset an appraiser can have.

I have perhaps strayed from the subject of actual appraising to some extent, but I have tried to emphasize the Institute are fully alive to and are endeavoring to solve the many problems, that confront the appraiser. It is the clearing house for appraisal problems.

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# Comparative Adjustments

Part of Appraisal Panel Discussion  
Winnipeg, Canada, June 25th, 1940.

E. E. McANELLY, A.R.A.

*Ætna Life Insurance Company, Bloomington, Illinois*

It is obvious that, in arriving at the Income Capitalization Value, there are many factors affecting the value of rural property that have not been fully reflected or reflected at all. The section of the report dealing with these unreflected or incompletely reflected factors is entitled Comparative Adjustments—Adjustments because the value is reflected by adjusting the Income Capitalization Value in an amount that the appraiser deems adequate for full reflection of the factor concerned and Comparative because the process of determining the kind and amount of the adjustment is a process of comparing the situation and condition of the farm being appraised with the situation and condition of other farms.

There is a fundamental difference in the approach to the portion of the appraisal dealing with Income Capitalization Value and that dealing with Comparative Adjustments. In determining the Income Capitalization Value the approach has been entirely on a typical basis or that which is most likely to occur. Actual operation, crop rotations and conditions were eliminated and the income from the farm under typical operation was determined. In arriving at the Adjustments the basis is actual rather than typical and the kind and amount of the adjustments are based on the actual conditions and situations of the subject farm. This change from typical to actual as the basis for comparison is necessary because in the Comparative Adjustment factors we are dealing with factors that are much more stable and less subject to fluctuation than are the factors of operation and management that are analyzed in the Income portion of the report. They are also less subject to the vagaries of the human equation.

A careful consideration of the factors that give rural property its value will reveal that the factors that are not wholly reflected in the Income Capitalization Value fall into two major classes. The first classification includes those situations and conditions that tend to influence the monetary income of the property beyond the typical income shown in the Earnings Statement. The second classification includes all those conditions and situations that primarily affect the desirability of the farm as a home and therefore, affect its value even though they may not affect the monetary income derived from its use. These two classes of factors have been designated as Location or Economic Use Factors and Home Use Factors according to the American Rural Appraisal System.

The necessity of adjusting for factors affecting monetary income can be illustrated by the fact that the typical income arrived at in the Income Capitalization Value is based on average commodity prices that apply over considerable areas. It is obvious that all the different farms within the area over which the base prices apply have different situations with respect to their ability to achieve the average price for their products. As an example, the farm on a surfaced highway, close to an elevator will

probably be able to obtain more than the average price for its produce because of the ability to market produce at any time and on short notice with the consequent ability to take advantage of sudden price up-turns of short duration. The contrasting situation is the farm situated on a dirt road, many miles from market with the result that weather and road conditions govern the time of marketing much more than the market conditions. Yet, these two farms may be within an area where the same average price prevails and so the difference in income producing ability which is due entirely to factors of location, must be accounted for in the adjustments in order to reflect the difference in value that exists between the two farms.

The factors of non-monetary income, or Home Use Factors as we have termed them must be adjusted for because in most cases a farm is a home as well as a business. Therefore, its value is governed to some extent by considerations that affect its desirability as a place of residence. Availability and convenience of schools and churches, modern conveniences in the home, recreational facilities, desirability of the neighborhood and many other factors of this kind may not affect the ability of the farm to produce wheat, corn or cotton but they do affect the desire of people to make the farm their home and this affects the value of the property.

It must also be pointed out that the same factor may in some cases affect both the economic Use and the Home Use Adjustments. An excellent example is found in the situation of a farm with respect to roads. We have already seen how the kind and condition of the road past the farm affects the earning power of the property. However, the kind and condition of the road also affects the Home Use Value of the farm for it determines the ability of the farm family to take advantage of the schools, churches and other cultural advantages found in the area. Thus, the single factor of kind and condition of roads often affects both the Economic Use and the Home Use Values. The combination of the two kinds of value in a single factor is not difficult to understand so long as the appraiser is aware that two separate values are involved and judges each on its own merits.

In the beginning of the discussion we pointed out that the process of determining the kind and amount of the adjustments is a process of comparing the subject farm with other farms. It must be clearly understood that the area considered in drawing the comparisons is a very broad one and the broader the appraiser's horizon of knowledge the more accurate his adjustments will be. It is true that the farms in the immediate district will probably exert the greatest influence in arriving at the adjustments, but farms in the same state and even in distant states will have an influence. As an example, let us take again the item of roads. At first thought it might appear that a farm situated on an all-weather road in a district where all weather roads were universal would not gain any enhancement in value due to this feature because all farms in the vicinity would have the same advantages. However, when the factor is compared on a broad basis it becomes apparent that location on an all-weather road is desirable and increases the farm value beyond that reflected in the Income Capitalization Value. As such it must be adjusted for regardless of the fact that all other farms in the vicinity will also



carry positive adjustments due to their location on good roads. The same reasoning applies to all other adjustment factors and the principle of broad comparison must be fully realized if the appraiser is to attain accurate results. This portion of the report emphasizes the desirability of a broad perspective on the part of the appraiser so that he has a knowledge of conditions over a wide area.

In determining whether or not an adjustment should be made and in arriving at the correct amount of the adjustment the appraiser must ask himself three questions. First, he must ask himself whether or not the item under consideration has a favorable or an unfavorable effect on the value of the property. If it appears that the effect is neutral and that value is not influenced by the factor then, of course, no adjustment is necessary but if it appears that the factor does have an influence on value then he must ask himself the second question, which is, "Has the effect on value been fully reflected in the Income Capitalization Value or some previous adjustment?" If it appears that the value has been fully and correctly reflected in a previous part of the report then no further adjustment is necessary, but if the answer is in the negative and further adjustment is necessary the appraiser must ask himself the third question which is "How much value remains unreflected?" The answer to this question will be the amount of the adjustment. To repeat, the appraiser must go through three steps in arriving at all adjustments. These three steps are, (1) Is the effect of the factor favorable, unfavorable or neutral, (2) Has the effect been fully and correctly reflected in the Income Capitalization Value or a previous adjustment and (3) how much effect remains to be reflected. By following this three step method of arriving at the adjustments the appraiser will avoid one of the major pitfalls in accurate appraising which is the danger of duplicating in the adjustments those factors already fully reflected, particularly in the Income Capitalization Value. It will also eliminate the possibility of the appraiser making negative adjustments for features which he believes would be desirable but which are lacking on the subject farm. If his Income Capitalization Value has been accurately determined he will readily see that the lack of fences, wells and proper rotations is fully reflected in the expected income under typical operation and he will not be tempted to make negative adjustments improperly.

In the foregoing discussion we have dealt entirely with the principles involved in making comparative adjustments. We will now undertake to show how these adjustments are incorporated in the appraisal report. In common with all other factors in the report the adjustment factors should begin with a listing in the report of all facts affecting their influence on the value of the farm. This listing of the facts serves a dual purpose. First, it shows the facts on which the adjustments are based and in addition it gives the user of the appraisal much valuable information concerning the location, surroundings and condition of the property even though no actual adjustments are made. To serve this latter function and also to eliminate the possibility of oversight by the appraiser it is the usual practice to list a number of the most common and important adjustment factors in the appraisal blank and by appropriate headings prompt the appraiser to bring out the essential facts concerning the

property. The following group of factors is not intended as a complete list of items to consider, but are suggested as the ones most commonly used. The appraiser should always be on the alert for unusual situations which must be discussed and weighed in his report in addition to those listed in the printed blank.

The first major adjustment factor that is almost universally included in appraisal reports has to do with markets, roads and transportation facilities. We have already illustrated how this factor covers those situations that may affect the earnings of the property through the ability to obtain more or less than average commodity prices for the produce of the farm. It also covers the ability of the farm family to take advantage of cultural facilities in the neighborhood. Therefore, it combines both the Economic Use and the Home Use phases of the adjustments.

The community in which the farm is situated is important and the facts concerning it are usually requested in the report. Nationalities, Sects or denominations, types of farming, thriftiness and income possibilities are all important parts of the community factors. Many of these points will already be reflected in the Income Capitalization Value through the typical operation, but information concerning the community is valuable enough to warrant full discussion in the report.

Hazards are so universally recognized as a part of a complete appraisal that their inclusion here need not be emphasized. The possibility of weed infestation, damage from insects or climatic conditions and plant and animal diseases are all items that influence land value and where these conditions exist they must be given weight in the final value.

Improvements and other Physical Features of the farm are important both as they affect the income producing possibilities and the aesthetic appeal. Buildings with modern conveniences may not cause the production of more corn or wheat, but they may make possible supplemental dairy or livestock enterprises and contribute markedly to the comfort of the operator and the resulting increase in value must be recognized. A word of caution should be injected here for the appraiser may be tempted to over-estimate the value contributed by excessively large buildings where no particular conveniences are found. Buildings that are overly large for typical operation of the farm must be recognized for what they are—a liability in the form of unduly high maintenance and insurance expense. Careful distinction must be made between the over built farm and the highly improved farm.

Physical features such as shape of the farm and internal arrangement of the fields are important because they influence the ease of operation. If their effect on value has not been reflected in the Income Capitalization Value it must be included in the adjustments.

The possibility of extra home income such as roadside markets or unusual facilities for poultry together with the possibility of obtaining outside employment in seasons when farm work is slack will often have a material effect on farm values. Care must be taken to avoid duplicating value already reflected in the rental terms set up for the property for where such situations exist it is often reflected by increased use rental for the buildings. However, the possibility of such value should not be overlooked and so it should be included in the adjustment factors.

Often a farm has saleable timber, gravel or other natural resources. The income from such items cannot be included in the typical income statement for their sale represents the sale of capital assets. However, the value of such resources in place and with no cost of processing involved should be added to the Income Capitalization Value if it is assumed that the farm will produce the same typical income with or without the natural resources.

Church and school facilities and their convenience to the farm will affect its desirability as a home and hence its value. It is unusual in our developed agricultural areas to find these items totally lacking and so this adjustment factor usually deals with the quality and kind of the existing facilities, the distance they are from the farm and the availability of transportation.

The house and yard or the desirability and home appeal of a farm may materially affect its value. Again it is a question of the comfort and convenience provided for the human beings involved and if conditions are such as to appeal to a large portion of the agricultural public then some addition to value is warranted. Here again the appraiser must distinguish between the over-improved and the highly improved farm and he must also judge the factor on the basis of its appeal to the general public rather than to a specific individual.

Recreational and Scenic features and Neighbors and Neighborhood have to do with the desirability of the vicinity as a home. Attractive features will add value to the farm while the presence of undesirable settlements, industries and plants or dump heaps or waste areas in the vicinity will most certainly detract from the value.

It should be repeated that the foregoing is only a list of the most commonly used adjustment factors. Special conditions may require the use of many more or altogether different factors. The main thing to stress is that in the adjustments the appraiser must weigh and reflect all factors affecting the value of the farm that have not been adequately weighed in the Income Capitalization Value.

In summary it should be emphasized that the term Comparative Adjustments has a definite meaning and relationship to the balance of the report. Since we are dealing with adjustments we must constantly bear in mind that we are building onto the earning value so the report will be a well correlated unit systematically leading up to the final Basic Value. The basis of comparison is actual not typical and this is a distinct departure from the process in the Income Capitalization portion of the report. The area considered in making comparisons is very broad and the accuracy of appraisals will be increased as the appraiser's perspective is broadened. By following these basic principles the appraiser will develop a logical, concise and complete appraisal report.

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# **The Appraisal Report**

## **BUILDINGS AND OTHER IMPROVEMENTS**

**ERSEL WALLLEY, Fort Wayne, Ind.**

There was a time when it was common for the loan examiner to assure his employer or client with some such definite statement as, "The buildings alone on that farm are worth \$6,000." With changing times the farm inspector became aware that farm buildings were not always worth what they cost, so he was inclined to protect himself by simply stating "The buildings on this farm originally cost \$6,000," leaving some inference that the buildings thus added \$6,000 to the value of the land.

To-day Rural Appraisers are rapidly coming to consider buildings and other improvements as integral parts of a farm business unit and using the methods explained in this and other papers presented in this paper discussion, come to the conclusion, that the basic value of a farm is so much. By "farm", they mean the land, buildings and other improvements taken together.

This development has not resulted from the arbitrary adoption of a new theory. It has been a logical step in making sounder rural appraisals based upon actual experience. Admittedly it was difficult to break away from separate consideration and evaluation of original cost, exact replacement cost and cubic content or size, but lack of utility, obsolescence, and other similar factors forced the adoption of this new approach. So as explained in these discussions, buildings and other improvements make their contribution to the basic value of the farm through safer and more practical methods of consideration. The utility value of buildings and other improvements makes possible the typical operation and management upon which the gross earnings are based. Type of construction and size affect net earnings directly through the amount of insurance and maintenance charges which appear as expense items. If the buildings and other improvements have unusually desirable or undesirable features, conveniences or inconveniences, the value of which has not been adequately expressed in the earnings statement, then through a comparative approach the rural appraiser makes the necessary adjustments which in his opinion are necessary to compensate for this inadequacy. Surely by this method the true value of buildings and other improvements is reflected in the basic value and no one can maintain these farm features have been done an injustice. More important is the fact that this method minimizes the danger of the rural appraiser and the user of his report being led astray in the evaluation of buildings and other farm improvement features.

All this does not mean that the rural appraiser can incline to ignore the buildings and improvements. On the other hand it is imperative that he observe, measure, and consider them carefully. His appraisal report should give a word picture of the farm, setting forth the facts necessary to explain and support the calculations, opinions and conclusions of the appraiser. The appraisal report should thus contain a plat showing the relative location of each building identified by a symbol or number and giving the distance between each structure or feature.

In some systematic arrangement the report should set out such essential information regarding each building as—

Type and construction	Size
Foundation—kind and condition	Paint
Roof—type and condition	Bracing and need of repairs
	Age

and any unusually desirable features or dangerous condition.

The description of the house should detail the number of rooms and explain such refinements as basement, furnace or hard wood floors. The description of the barn and other buildings should likewise detail the bin, crib and hay storage capacity with the extent of accommodations for various kinds of live stock and poultry. As a basis of determining fire risk and ascertaining insurance rates, the kind and condition of chimneys and the presence of lightning rods and spark arrestors should be noted. In a similar manner the location, kind and condition of other improvements such as water systems, windbreaks and fences should be described with particular emphasis upon line fences and those improvements necessary for typical operation. In completing this inventory of improvements, the present depreciated value and practical replacement value of each building should be determined and reported.

Based upon this information the annual improvement maintenance charge is calculated for the earning statement and a background is created to explain adjustments made on account of the home or other improvements.

Rather generally appraisers take the present depreciated value of buildings as the insurable value and determine the annual insurance premium on the basis of a 75% coverage. In our experience we find that usually and typically buildings are valued above the present depreciated value by insurance writers and the amount of insurance actually carried and collectible covers our entire value of the buildings. For this reason alone some of us are inclined to calculate the insurance charge by applying the premium rate to the total value of the buildings. To those who argue that this is an overcharge in cases where there is less than 100% coverage, may we suggest that any part of the real risk not assumed by the underwriter is in effect then carried by the owner of the farm and thus an insurance expense charge based upon the total value of the buildings is chargeable to the annual operation of the property.

With this comment we pass to one final consideration of buildings which we cannot ignore in this discussion. Regardless of the fact that we prefer to value the land, buildings and improvements as a unit and not separately, yet those appraising for loan purposes face a requirement which must be met. Customs and governmental regulations both in Canada and United States require in loan appraisals that so much value be placed on buildings and so much on the land with a classification by acreage of various kinds. To meet this condition, rural appraisers quite often use the present depreciated value of the buildings as the value of the buildings and deduct this from the basic value leaving the remainder as the value assignable to the land. Before employing this procedure we believe the appraiser should analyze the earnings statement and adjustments and calculate as carefully as possible the net contribution



of buildings to the basic value. This value which we may choose to call the "effective value" of the buildings should be checked against the present depreciated value. This analysis provides better support for the value finally assigned to buildings and enables the appraiser to fulfill this requirement with more confidence.

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## Appraisal Reports

### WHAT THEY SHOULD SHOW

**HENRY C. HALL, Hartford, Connecticut**

**Assistant Supervisor of Farm Loans, Connecticut Mutual Life Insurance Co.**

Here this afternoon we have conducted a clinic on the building of a rural appraisal report. The men who have so successfully explained each step of the process are not theorists repeating rules for realizing an ideal beyond attainment. You are aware of their expert knowledge,—impressed with the feeling that they know what they have told us. They do these things on actual farms as a part of their everyday work.

My assignment is to emphasize the usability of the report. Rural Appraisers don't make reports for recreation—somebody pays money for the reports. Why? What is their use? An appraisal is made for the sole purpose of ascertaining an honest value, converting that value into terms of a common denominator, money; and making an intelligible report to some one who has use for it and will pay for it.

The Appraisal Report should show the value of the property appraised in a manner which is convincing to those for whom it is made; that it is an honest and sound foundation to support a decision to buy, to lend or decline. It should show logical and progressive reasoning one step after another to inspire that confidence. The principal must have such a feeling of confidence to know the foundation for his decision is solid.

The appraisal report is the composite of three pictures superimposed one over the other, with details interwoven and tied together to leave no scrap of doubt about the appraiser having weighed and evaluated every single fact. These three pictures are the plat picture, the word picture and the figure picture. Accuracy and honesty are the major and primary pigments for the appraiser to mix on his palette. Complementary colors of neatly drawn plats, artistically lettered and shaded, well chosen words and grammatically correct sentences may be blended in to add a pleasing appearance. Never let the mechanics of shading in these secondary and minor complements distort the accuracy or honesty of the picture.

The plat picture visualizes many things—shape, topography, culture and utility. It isn't necessary to make this picture with the precision tools of the surveyor or a professional draftsman. Accuracy and honesty in platting every feature which has any effect on value, to permit the principal to see the physical farm through the appraiser's eyes is the purpose of this plat picture. It is important because his first of the three pictures is the ground or back drop for the other two.

The word picture should, when it is superimposed over the plat picture,

amplify and complement the plat. Explanations should be clear and concise. The appraiser must be watchful against the temptation to go off the deep end in stressing some feature; cropping, management, fencing or anything else which excites his personal interest. Overemphasis of some thing arousing his fancy may distort a picture otherwise portraying the best in perspective and balance. Likewise, failure to explain the depression where rain water collects in the area colored blue on the plat may leave a gaping hole in the picture. Recheck the word picture carefully to be certain it describes and explains the plat picture, building and all. Consistently tie in every element in both pictures which contribute to a value, either positive or negative. See to it that the plat picture and the word picture fit each other, dovetail.

The third picture is the final touch. The figure picture carefully fitted and superimposed on the other two is more than a complement. It **completes** the composite picture. Here the appraiser is wide-awake and logical. The figures allotted for yield and price weigh heavily after they have been multiplied by capitalization. His pencil, when making plus or minus adjustments, is sharper than a two edged sword. Here he needs to grasp accuracy and honesty with both hands and grimly hang on for the life of his professional reputation. The importance of this figure picture can't be overemphasized. It transposes the value portrayed in the plat picture and the word picture into dollars and cents. It is the dollar value on which the principal will base a decision. The final dollar value is the ultimate end of the appraisal report the principal pays for, and he is entitled to his money's worth, the very best the appraiser has. While the figure picture, the dollar value of the property, is the ultimate end paid for by the principal, it may be entirely worthless to him. Let us suppose the plat picture is perfect but the word picture isn't nicely dovetailed or is warped. Perhaps the figure picture isn't clearly itemized and tied in with the component parts of the other two. Maybe the appraiser explains in the word picture some feature necessary to the plat picture but omitted in the plat. Some intimation of guess or lumping off may appear in the figure picture. Any inconsistency or oversight may breed and rear an ugly fear in the mind of the principal that the ultimate dollar value isn't correct. When this happens, the principal is seldom equipped with knowledge, training or experience to rectify the error or kill the doubt which a simple oversight has whelped in his mind.

Occasionally the principal senses a disposition to **sell** in the appraisal report. Sometimes the report is deliberately decorated with artistic covers, fancy titles and pages of tables and charts, which may have a tendency to obscure the salient facts contributing to value. This is not good. Pursuing the allegorical picture painting, the appraiser is commissioned only to **paint** the picture, **not** to frame it.

**Plat picture** must show—

1. Boundaries
2. Terrain features
3. Roads
4. Improvements
5. Area and variations of soil types.

**Word picture must explain—**

- |                  |                                     |
|------------------|-------------------------------------|
| 1. Location      | c. fertility                        |
| 2. Accessibility | d. productivity                     |
| 3. Soil          | e. probable stability or durability |
| a. types         | 4. Adequacy of improvements         |
| b. areas         | 5. Condition of improvements        |

**Figure Picture** shall evaluate **each** factor; contributing either a positive or negative value.

Don't you see how necessary it is to paint these three progressive pictures with cardinal colors of accuracy and honesty, nicely brushing them together to bring forth a consistently dovetailed dollar value? Each picture by itself and the composite must inspire confidence in the mind of the principal that the appraiser is competent, accurate and honest. To get his money's worth the principal must **know** the appraisal report provides him with a rock solid foundation on which to make his decision to buy, sell, lend or decline.

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## Analyzing Appraisals

Made By

### THE AMERICAN APPRAISAL SYSTEM

C. U. JETT,

Fidelity Mutual Life Insurance Company, Philadelphia, Pa.

Under the old method of making farm appraisals there was little by which the Investor could determine how or why the Appraiser arrived at any value which he might give for a farm. The appraisal was an opinion supported by few facts. If the Appraiser wanted to remove all doubt as to the soundness of his appraisal he simply stated that it was his "honest opinion" or his "honest judgment" that the farm was worth so much.

A review of some of the inspection and appraisal reports used under the old methods, shows that the Appraiser was required to answer a number of questions which were designed to give the Investor an accurate picture of the farm in all of its details, and of the community in which it was located. However, those questions were usually answered in such general terms as to fail to give an accurate picture of the farm or of the community. For example, the soils were often described in such general terms as "chocolate loam", when as a matter of fact the texture of the soils might have been almost anything from a gravel to a clay. The fertility, drainage and topography also were often described in general inaccurate or indefinite terms.

Investments made on the appraisals made by some men under those methods, stood up much better than those on appraisals made by others. This, no doubt, gave rise to the statement that "the appraisal is just as good or is no better than the man making it". However, without some definite well-known standards of measure, the Investor finds it just as difficult to determine when the Appraiser is good or just how good he is as he does in determining the value of the farm..

Under the American Appraisal System the Investor has some assurance that the Appraiser is a qualified Appraiser. The letters A.R.A. after the Appraiser's name indicate that he has met the requirements of an Accredited Rural Appraiser, that is, he has had the technical training, the experience and has met the ethical requirements of an Accredited Rural Appraiser. Therefore, the Investor knows that insofar as an opinion enters into the appraisal it is an informed opinion. The fact that the American Appraisal System is a system is something in its favor. The Investor knows that the Appraiser has followed a definite procedure in making the appraisal.

Under the American Appraisal System, the Investor has some information as to why and how the Appraiser arrived at the value which he gave for a farm. The appraiser is required to identify the types of soil on the farm, give their names and characteristics, such as color, texture, depth, fertility, topography, rating and all other factors affecting their productivity. If he fails to accurately identify the soils or to accurately describe them, it has the same affect upon the Investor that the Dentist's pulling the wrong tooth has on the patient.

Under the American Appraisal System the Investor can determine how and why the Appraiser arrived at all of the sources of value of a farm. The appraisal shows the combination of crops, yield per acre, the price and the share of those crops used in determining the Earning Value. It shows the expenses, the net income and the rate at which the net income is capitalized. The expenses are itemized so that the Investor knows how much each item is. Likewise, the Appraisal shows how the Appraiser arrived at the Location Value and the Home Use Value, if any, which he might have given for the farm. The Investor knows the percent of the total value which is derived from Earnings, from Location and from its Home Uses. The Investor knows, of course, that in all of these factors, there is an element of opinion and an element of judgment, and to that extent he is still a bit skeptical of the American Appraisal System.

While it is doubtful if any Appraisal System will be developed by which a few simple facts can be taken and all sources of value as well as the final value of the farm can be determined by a slide rule, the Investor wants to know that all opinions are based upon and supported by facts.

The American Appraisal System shows the hazard and the detriments of the farm, but the extent or seriousness of those features is still somewhat of a matter of opinion and the Investor, therefore, is never quite sure that they have been given proper weight in arriving at the final value of the farm. Therefore, care must be used in describing those hazards and in giving them their proper weight in arriving at the final value of a farm. The terms used in describing those hazards must be such as not to over-emphasize them or to under-emphasize them in the Investor's mind.

Some of the questions which arise in the Investor's mind when he has an Appraisal made by the American Appraisal System before him are:

1. Why is that exact combination of crops used and how did the Appraiser arrive at the exact acreage of each of those crops. What effect would a change in the acreage of those crops have on the final value of a farm.

2. Are the rental terms those which prevail at the time of

appraisal, or are they the long time average terms. Has there been any change in rental terms in recent years or is there a trend toward changes in rental terms. If the rental terms are part share of the crop and cash rent for pasture and buildings, how would the Appraiser arrive at that cash rent.

3. Are there any long time trends, the effects of which have not been fully shown, such as rainfall, types of farming, size of farms, trends in population, hazards and detriments.

4. Is the type of farming that to which the farm and the region are best adapted and will it maintain the fertility of the soil, support a reasonable standard of living and enable the Investor to earn a fair rate of interest on his investment.

5. In making plus and minus adjustments for all of the factors of Earnings, Location and Home Uses, what basis, what standard of measure did the Appraiser use except that they were the amounts necessary to make the final value come out in the amount which, in his honest opinion, the farm should be worth.

6. Have all facts which have a bearing on the value of that farm been correctly stated and correctly weighed in arriving at the value which the Appraiser placed on that farm?

If the Investor in farms and farm mortgages could have attended this meeting and could have heard all of those excellent papers, he of course, would have learned the answer to many of the questions which naturally arise when he has only the appraisal before him. He would have been impressed with the information, the training and the background which an Accredited Rural Appraiser must have before he even starts to make an appraisal. He would have been impressed with the thoroughness with which the Accredited Rural Appraiser goes about the task of making an appraisal and in weighing all of the factors which have a bearing on the value of a farm. He would have been impressed with the requirements and standards which an Accredited Rural Appraiser must meet as outlined in these papers and as set up by the Accredited Committee of the American Appraisal System. This committee therefore, has no small responsibility when it grants the title of Accredited Rural Appraiser to one of its members.

Unfortunately, the Investors did not attend this meeting, did not hear those papers and in all probability, many of them will not even read those papers, that is, many of those who make the final decision on farm purchases, farm loans and farm sales will not read those papers.

Finance Committees of Lending Institutions often are so busy with matters of administration that they do not have time to study the details of making farm appraisals. With a large number of loan applications coming before such a Committee for decision, it is impossible to read long detailed descriptions of methods used and reasons why the Appraiser arrived at each source of value and a final value of the farm. The reasons for various sources of value and the final value therefore, must be briefly and accurately stated.

The American Appraisal System has much to commend it. It is a long step in the right direction over the old methods. It is gaining in popularity and favor with Investors and no doubt will continue to do so



as the Investors are convinced that all opinions are based upon and supported by facts and that all facts which have a bearing on the value of the farm have been considered in arriving at the final value of the farm.

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## Concluding Remarks

MR. MORSE

The program authorities have asked that this panel again convene tomorrow afternoon for a continuation of the discussion of appraisals. At that time we especially want questions from the floor. Our papers have all been presented, so the discussion will be entirely informal.

In a most effective way, the panel members have handled large subjects in brief concise papers—the brevity made necessary by the time limitations.

In conclusion I wish to reemphasize some of the facts impressed upon us by this discussion.

1. Progress is being made in the development of a sound appraisal system. Leaders in the appraisal field recognize this fact and are using the newer methods and helping to further improve the system.

2. Appraising is a technical undertaking for which men should be well trained and adequately equipped. Appraisers must be constant students and keep their libraries supplied with all pertinent data.

3. The accuracy of appraisals depends largely upon:

- (a) A thorough and intelligent field inspection,

- (b) A systematic development and calculation of value, using a well designed and complete appraisal form.

Abbreviations of either should not be allowed to involve the basic principles of valuation.

4. Appraisals have value only to the extent to which they can be effectively used. Good appraisals not only set accurate values but can be used for such purposes as measuring credit risk, analyzing management problems, studying the sources of value, and obtaining other facts pertinent to the purposes for which the appraisals are made.

Millions of dollars are loaned on farms, thousands of dollars are invested in land, courts approve condemnation settlements, bond issues are authorized, and farmers buy and sell their homes each year based on rural appraisals. **The valuation of real estate is indeed serious business. We must not deal with it lightly.**

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## Comment

By DR. W. G. MURRAY.

Department of Agricultural Economics, Iowa State College, Ames, Iowa.

The dollar values assigned to the adjustments in the appraisal report of the Wallman farm strike me as difficult to substantiate. As a suggestion, I would like you to consider "long term sale value" as a substitute for "basic value". I mention this only as a suggestion because I am not sure you will find the substitution helpful, although I am finding it increasingly useful.

The chief advantage of "long term sale value" is that it sets the upper limit or ceiling to value and thus gives a definite total figure for the adjustments. If we had a total farm value (long term sale value) of \$15,000 and an income value of \$14,000, we could proceed with confidence to allocate the adjustments of \$1,000 among the various non-income factors such as schools, distance to town and appearance of buildings.

We should not forget that in many parts of the United States the so-called adjustments constitute an important and sometimes a major portion of the farm value. For such farms we need a more satisfactory method of handling the adjustments or non-income factors than we have been using in the past.

Would it not be appropriate to give adjustments an important place on the program at our next meeting since it is apparent that this part of the appraisal report is at present the least satisfactory?

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## The Synthesis of Materials for Appraising

By CONRAD H. HAMMAR, Columbia, Missouri

Rural appraising has undergone in recent years an almost complete metamorphosis. Rule of thumb methods have been displaced by studied techniques making full use of a great range of scientific data. Much of the leadership, that provided the driving force needed to bring about this transformation, came from persons now in this room and from members of this society. In general, also, the two scientific disciplines that appear to have contributed most to these recent developments have been soils and agricultural economics, though agricultural engineers have given much aid as well.

For scientific appraisal there is needed a great welding of soils and economic data. The greater part of the value of farm property is the value of land and this can be approximated only if the factors that affect the productivity of land can be adequately evaluated. Appraising requires, therefore, an intimate knowledge of the productive capacity of land and a sure grasp of how best to translate these facts of productive capacity into values. It is for these reasons, I am sure, that your program committee suggested that this paper on the synthesis of materials needed for appraising be developed about the three topics:

- 1) the preparation, interpretation, and use of adequate soils data,
- 2) the relationship of land classification to appraisal, and
- 3) a restatement of the theory of land value.

### Preparation of Soil Data

In general, the appraiser needs to be able to judge the productivity and durability of soil. Often times the most feasible immediate method of judging both of these is the record of yields. However, such records are not always available or accurate and even when available not always satisfactorily indicative. Furthermore, just as a knowledge of yields strengthens one's judgment of the soil, a knowledge of the soil supports

ones judgment with respect to yields. Soils knowledge has, therefore, a broad and independent status and value of its own.

How does the appraiser learn to know the soil? There is perhaps no entirely satisfactory substitute for formal soils work under competent university faculty guidance. Certainly those entering the profession from now on should be required to present some university level work in soils as part of their entering credentials. The degrees of A.R.A. and A.F.M. given by this organization are not to be obtained unless the candidate under examination shows a good comprehension of soils facts over the area for which the degree is to be awarded. Such a step is a notable recognition of the importance of soils to modern appraisal and is a credit to the leadership of the Society.

For those who do not have university training in soils, knowledge will have to be obtained the hard way by (1) studying the available texts, (2) by poring over the soils bulletins, and (3) by seeking the advice and help of appraisal colleagues and of others who can point out salient features of soils characteristics. There are apparently few simple and reliable tests, based upon the outward character of soils upon which the beginner may depend during his early work. However, the depth of color, black or brown, is a good indication of nitrogen content, litmus can be used to help in determining acidity and the Comber Test helps in determining the calcium or exchangeable base level. Moreover, it is by no means difficult to develop in short order a discriminating sense of soil texture by field examination.

The appraisal profession by and large will, however, have to continue its dependence upon the soils scientist for the preparation of the underlying soil data needed as a guide for evaluation. As a group, appraisers should press for the completion and particularly the refinement of the soil survey in all states and provinces. It will help further if those in charge of the soil survey will go to much greater lengths to explain and interpret the information and maps they prepare. Data on price per acre often included in descriptions of the soil type in survey bulletins could well be left out. Such prices are usually out of date before the bulletin is published anyway. However, more information on (1) the range of variability likely to be encountered within a single soil type as mapped, (2) more exact and clearer information on soil structure, (3) carefully prepared analyses of the fertility complex of the soil, (4) an equally carefully prepared discussion of the durability of the soil under given circumstances of use, together with very much more adequate and accurate data on yields of crops under typical use or a range of uses (as these are encountered), would make the soil survey maps and bulletins vastly more useful to the appraisers. Great as the debt of the appraiser to the soils man is, the criticism appears to be justified that so far the soil surveyors have been far better mappers than interpreters.<sup>1)</sup>

#### Use and Interpretation of Soils Data

There are two general methods of interpreting and using soil data for appraising. First, the soils data may be associated directly with land or

<sup>1)</sup> C. E. Kellog makes much the same point when he states: "Having defined and mapped the soils according to the physical differences significant in their use, their use-capabilities and their important differences must be ascertained and clearly brought out in the accompanying report. Soil types (or land types) must be determined on the basis of their physical characteristics, but agronomic and economic data are of invaluable use in arriving at their capabilities." See Soil Survey Manual. U. S. D. A. Mail, Published 1937, page 6.

real estate values. This method was, for instance, employed in a Missouri study of my own in which I found a close association between variations in average land values by Missouri counties and variations in the level of nitrogen, exchangeable bases, and available phosphorus for the same counties. In this same study, also, certain aspects of soil structure, texture and slope were found to affect land values directly.<sup>1)</sup>

Table 1—Relationship of Soil Factors to Values of Land in Missouri Counties

Unit Factor	Yield or Value	Coefficient of Correlation (Linear)	Index of Correlation (Curvilinear)
Nitrogen* .....	Land Values† (1930)	+ .78	.81
Phosphorous† .....	Land Values (1930)	+ .80	—
Exchangeable bases* .....	Land Values (1930)	+ .87	.915
Ratio of clay content of sub- soil to clay content of sur- face soil.	Land Values (1930)	— .48	.60

\* Content of surface 7 inches of soil

† Readily available phosphorous in surface 7 inches of soil

‡ County average land values

The second method is to relate these variations in soil and land character to yield and thereafter to associate these yields with land values. Some direct appraisal research and a great body of soil fertility research is of this type. A recent Iowa study for instance relates directly depth of surface soil and corn yields. On Tama silt loam with surface soil two inches or less deep, corn yields<sup>2)</sup> were only 31 bushels per acre in 1936 and 47 bushels in 1937. By contrast when surface soil was over 12 inches deep the yields were respectively 53 and 88 bushels per acre in the same two years. There was, furthermore, a quite persistent increase in yields with each increase in depth of surface soil up to the maximum depth of 12 inches and over investigated in the study.

More recently still, Professor W. A. Albrecht of the University of Missouri has announced a theory of plant array in relation to the calcium potassium ratio that may be of utmost importance to the appraiser. Albrecht suggests a role for calcium in protein production not unlike that of potassium in carbohydrate production. His theory is that soils with a high ratio of calcium to potassium<sup>3)</sup> are favorable to the proteinaceous plants such as red clover and alfalfa. On the other hand, as the ratio of calcium to potassium declines, the flora will, he indicates, more and more largely be composed of the types of plants of a woody or carbonaceous character and of a much lower value in feeding and animal nutrition. Briefly it is his observation that as calcium declines in relation to potassium the preponderance of the woody plants increases.

The advent of this theory, though its application to appraising under present circumstances must still be regarded as preliminary, is valuable for a number of reasons. First, it makes the calcium supply of the soil

1) See Factors Affecting Missouri Land Values, Mo. Agri. Exp. Stat. Bul. No. 228.  
2) On a perfect stand basis. See Murray, W. G., Englehorn, A. J., and Griffith, R. A., "Yield Tests and Land Valuation". Res. Bulletin No. 252. Iowa Agricultural Experiment Station, 1939.

3) With a constant but low level of available phosphorus, see the article on "Calcium—Potassium—Phosphorus Relation as a possible Factor in Ecological Array of Plants". Journal of American Society of Agronomy. June, 1940.

matter of first rate importance probably transcending even that of nitrogen. Second, it makes the whole matter of plant adaptations to soils one much easier of interpretation to the appraiser. Third, since livestock must have abundant supplies of proteins and minerals there is no choice but to concentrate them upon lands well supplied with calcium. The rate of removal of calcium from the soil is in direct relationship to the amount of rainfall and the height of the temperature. Regions of heavy rainfall and of relatively high temperatures are, in general, regions of low calcium-potassium ratios. Cotton and sugar cane, therefore, belong in the southern states and attempts to develop these same states for intensive livestock areas are sure to prove hazardous. The young and calcareous soils of the Middle Western sections of the continent, on the other hand, take on an added significance as food producing areas.

In the present connection the significance of this theory is that it throws into such clear relief the supplementary character of a knowledge of these aspects of the internal character of soils on the one hand and of the yields or productive capacity of these same soils on the other. Appraisers who have at their command both types of knowledge can most effectively use and interpret soils data in specific evaluation work.

#### **Land Classification for Appraising**

Appraising without the pre-classification of land is like groping in the dark for something lost. Classifying land in a proper manner will greatly increase the discrimination of the appraiser, reduce appraisal errors, and the dependence upon average values. In short, it will at one and the same time reduce the risks of mortgage credit and do much to limit the speculative element in land purchase.

Classification of land for appraisal purposes alone, however, is never likely seriously to be considered. Classifying land is an expensive and time consuming task. If it is to be undertaken upon a broad scale it will have to be usable for a number of important purposes. Fortunately, such classification is needed for a great many purposes, some of them rather narrowly specific but many of them, such as those for county land use planning, assessment and appraisal, of a more general character.

A method of classification that would serve about equally well both assessment and appraisal purposes can well be devised. Such a classification would serve important purposes in both the United States and Canada. The suggestion is, moreover, more than usually timely for a number of reasons. First, there is a ferment and an awakening interest in the field of land classification that could and should be harnessed to some such significant task. Second, there are many new and significant improvements in land classification technique so that accomplishments superior to any that have been made in this field heretofore are a most promising probability. Third, the persistent exposure of the chaotically inadequate assessment of real property in the United States, and I presume in Canada, is having its effect. A number of experiments in reassessment, making use of land classification techniques, are going forward. This society could perform a service of national importance, in my estimation, by appointing a committee to make a thorough study of methods of classification most satisfactory for assessment and appraisal in the interest of bringing about a desirable standardization of procedures.



There are, however, certain general characteristics of such a classification of land that can be made in advance of the investigations and proposals that such a committee would make. To begin with, three steps in the process or procedure of assessment or appraisal should be kept measurably separate and distinct. These three steps are (1) the classification (2) the supporting analysis, and (3) the evaluation. To make up the three a single step is to me most regrettable since it fails to recognize certain fundamental principles in the field of appraisal and land economic theory. The first of these principles is that classification is not synonymous with analysis nor with evaluation. This point is significant because certain individuals and groups who should know better persist in mixing all these into an often inextricable mess. The definitions of these terms should indicate the difference between them. Classification is "the putting together of like objects or facts under a common designation." Analysis by contrast is "the act of ascertaining, separating or unfolding in order, the elements of a complex body, substance or treatise." Evaluation is merely to "appraise or to find a mathematical expression for." To jumble all three of these in a single presentation as has so often been done is to me a major error in logic and composition, and in procedure. It has so often resulted in the forging of one poor tool where three good tools could have been made.

A second principle that can be stated with quite as great finality is that while analysis may comfortably encompass a whole range of static and dynamic facts or circumstances, classification needs and implies certain stability of the things to be classified and becomes a less and less suitable technique as it is applied to more and more dynamic or fleeting phenomena.<sup>1)</sup> Classification for assessment or for appraisal should, therefore, be based upon the more nearly static features of land. It may be and should be supported by an analysis of the more dynamic and experimental aspects of land use and both the classification and the analysis should be the basis for, though kept distinct from, the evaluation. In somewhat different terms, the analysis including as it does a consideration of many dynamic phenomena may be and perhaps will need to be revised each year. The classification should by contrast be so constructed that much of it will be virtually permanent and the remainder subject to revision only at long intervals.

In addition to keeping the classification distinct from the analysis and evaluation there is one further break with traditional classification procedure that is needed. The traditional method of classifying land is to make an elaborate survey and analysis of the many aspects of land and at the end to synthesize the results in a single map upon which the boundaries between the various land classes are drawn. Often no record at all or only a perfunctory one is kept of the many factors considered and the many work maps made in arriving at the final classification and map.

For purposes of the assessors and appraisers such single-map classifications have two major faults. In the first place they are too rigid to be of much use and are likely to be quickly discarded. It is impossible to make from them the fine distinctions that both assessor and appraiser continuously find desirable. Second, when such maps and classifications grow

1) In this connection see the article "Land Classification to Aid the Appraiser" by the author. *Journal of Land and Public Utility Economics*, August, 1939.

obsolete, as they all do, there is no way of revising them without repeating the whole process by which they were first made.

In this dynamic world of ours demand and supply, prices and costs are constantly changing. The assessor and appraiser must constantly re-value and reappraise. They need, therefore, a system of land classification that aids them not only in establishing values for the first time but at subsequent times as well. Especially is this true in the case of the assessor who should in strict practice reassess each year.

The kind of classification of land that is most suitable for such purposes is that which groups and maps separately the distinct and diverse factors or elements of which land is the complex. That is, the assessor and the appraiser are going to find much more useful a series of maps upon which are classified the soil, topography, erosivity, stoniness, cover, locational factors, the numerous elements of soil fertility and structure and the like, than a single map made up from a consideration of all of these. Such a system of land classification I have referred to as the differential system<sup>1)</sup> because instead of depending upon a single end product (classification of land as a complex) it proceeds by differentiating the many elements of which land is composed and preparing a classification and the map of each. Land as a complex cannot be measured. Many of its component elements can be measured. That is, the soil content of nitrogen, exchangeable bases, and available phosphorous, can be measured more or less directly. Texture, topography, and structure are more difficult but not impossible to measure. Cover and stoniness present somewhat similar problems of measurement, classification, and mapping, and erosivity still further difficulties. Nevertheless, none of these individual elements are difficult to handle in comparison with "land" which is the composite of all of them.

In addition to the fact that the differential system permits and stimulates a far greater insight into the interior aspects of land, it has another great advantage. The aspects of land that most govern its value change from time to time. Thus in northern Missouri a quarter of a century ago a rolling topography was counted no particular hazard to agriculture. Soils still had left the bulk of their topsoil and concern over erosion had hardly begun. The situation at present stands in sharp contrast and rolling land is valued at a sharp discount in relation to that with easier slopes and, hence, less erosive. Shifting types of farming and the rising and declining importance of particular crops will from time to time shift the emphasis that will be given by the assessor and the appraiser to the various aspects of land in their processes of evaluation. The differential system permits and facilitates just such flexibility in use.

Finally, and by way of summary, land classification would be of undeniable aid to the appraiser. Assessment and appraisal would be served about equally well by the same type of land classification and tax officials and those interested in classification for appraisal should join hands in devising the classification and seeking to have it made.

The classification should, in my estimation, be of the differential type since such classification is so much more flexible and usable both for assessment and appraisal. Furthermore, it should be kept measurably

1) See for instance Mo. Agric. Exp. Sta. Res. Bulletin No. 229, "Factors Affecting Land Values in Missouri." Page 11.

distinct and separate from the supporting analysis of the more dynamic aspects of land and land use that are the proper supplement to all classification projects. Both of these in turn should be distinct from the process of evaluation which should be built upon the data of the two earlier procedural stages. Often, particularly in assessment, it is necessary to employ formulae and equations in interpreting the physical data of the classification and analysis into value terms. Seldom are these formulae suitable more than temporarily. It is advisable and indeed a necessity therefore, to leave the process of evaluation and appraisal free to adapt itself to constantly changing circumstances. Keeping the three steps separate permits just such freedom.

### Restatement of the Theory of Land Value

Two great approaches to land valuation struggle more or less constantly for supremacy. These are first, the comparative approach which is apparently the dominant method in certain European countries and the income-capitalization approach that has gained great prominence in the United States, recently and a modified version of which is sometimes referred to as the American System. There is no need to go into a lengthy description of the two approaches since their nature is relatively well known.

Neither approach is by any means fool proof. Neither approach furnishes more than an estimate of what the future alone can reveal with respect to the value of land. Past sales values and past farm incomes only indicate what land values may be. Future incomes rather than past incomes dictate what land values will be and there is no perfectly secure method of discovering what the future holds.

The comparative method, employing as it does current sales or market values of land gets away from the need to estimate future incomes, costs and capitalization rates. In effect, it accepts the market evaluation of all these. While such procedure is advantageous in some respects it runs into the difficulty that market determined present values are commonly such poor indicators of future values. The market was buoyant and optimistic in 1920 when it should have been very dubious indeed about future prospects and was most gloomily depressed in 1932 and 1933 when the very extremity of the times should have been a portent of a better period ahead. As Chambers,<sup>1)</sup> Thomsen,<sup>2)</sup> and Bean<sup>3)</sup> have pointed out the land market is dependent most profoundly on the experiences and fortunes of farming during the preceding few years in its evaluation of future prospects upon which, in turn, its land value judgments are based. Bean, for instance found that "of the total variations in land values from 1912 to 1937 . . . about 52 per cent are associated with the prices in the current crop year, 25 per cent with prices in the previous crop year, and 8 per cent, 6 per cent, 5 per cent, 3 per cent, and 1 per cent with prices in the respective previous crop years."<sup>4)</sup>

The decision, therefore, to depend upon the comparative method is the decision to rely on market values. The search goes no further and

1) Chambers, C. R. "The Relationship of Land Income to Land Values, U.S.D.A. Dept. Bulletin 1224, 1923.

2) Thomsen, F. L. "Factors Affecting Real Estate Values in the U. S." *Journal of Farm Economics*, May 1935, page 379 ff.

3) Bean, L. H. "Inflation and the Price of Land." *Journal of Farm Economics* Proceedings Number, February 1938.

4) *Ibid*, page 315.

there is, therefore, the underlying belief that a painstaking consideration of all factors likely to affect future values, taking into consideration current and trend data, can arrive at no better forecasts than a market that obviously reacts only sparingly to other than current stimuli. Since the market is so often seriously in error, dependence upon the comparative method alone can hardly be acceptable until all other avenues have been explored and found equally or even more wanting.<sup>1)</sup> Perhaps it should be added, however, that the comparative method would be and is an excellent one during periods of stable land values. Periods of land value instability will always bring dissatisfaction with it, however, as the events of the past decades have illustrated.

The income-capitalization method may or may not prove superior to the comparative method but it has a number of advantages over the alternative method nevertheless. In the first place it institutes a deep search into the factors and forces that determine value. What are the factors that most affect farm income? What share of such land income may be assigned or imputed to land? What is the typical or normal type of farming, size of farm, leasing arrangement and the like that may have a bearing on income and value? What are the relevant trends with respect to farm and particularly land costs with, perhaps, special reference to taxes? What are the significant circumstances affecting living costs and what are the circumstances likely to have a continuing effect upon the demand for farms to rent? Finally, what is the most satisfactory rate of capitalization and what continuing circumstances are likely most to affect it in the future?

In the second place the income-capitalization method fixes much more emphatic attention on the exigencies of the future than does the comparative method. Farm land sale prices, as has been indicated, reflect chiefly the immediate past in farm and land incomes. The income-capitalization method depends directly upon forecasts of future yields, future prices and costs and future capitalization rates. Whether specialists with broad access to relevant data can do a better job of forecasting than the relatively uninformed land market, is not established beyond peradventure. Certainly there are signs already, however, that those employing the income-capitalization approach are less likely to be carried away by the current swings of the economic pendulum. It is altogether probable, therefore, that dependence on this method will lead to more cautious lending and buying policies during rising price periods and to less fearsome policies with respect to these same matters during periods of falling demand.

Finally, also the income-capitalization method provides, as a by-product of its probing of the future factors important to the level of land values, a great deal of data that is valuable to buyers, sellers, borrowers and lenders. Such data are valuable for instance in judging the safety margins that are suitable not only for different periods but for different areas as well. Data obtained in relation to capitalization rates are valuable in determining mortgage loan interest rate policies and data on farm incomes, particularly those which explore the range of fluctuations of

1) The comparative method has other faults chiefly centering about the question of the adequacy of the sales data upon which is must perforce be based. See the "Textbook for Assessors" (mimeographed). Prepared for the Government of Saskatchewan, 1939, page 71—73.

farm incomes, are valuable in determining credit risks and for the light they throw on what repayment rates and requirements need to be.

### Theories of the Capitalization Rate

Despite any advantages the income-capitalization method may or may not have its use must be acknowledged to involve a number of more or less unmanageable concepts. Forecasts of yields, prices, costs, and the selection of a suitable capitalization rate are all difficult. Furthermore government policy is now beginning in the United States to be a significant factor in future farm income determination.<sup>1)</sup>

The problem of yield forecasts is not too insurmountable a matter. Advancing knowledge of soils together with more data on the yield histories of individual farms that appear to be forthcoming, in the United States at least, as a by-product of the agricultural adjustment program and the ever lengthening experience with weather variations in the agricultural sections of the continent will in time put yield and productivity forecasts upon a higher plane of accuracy. Some aspects of costs such as those for property taxes the appraiser can deal with directly without too great likelihood of any serious margin of error. The great difficulties occur in connection with what level of prices to use and what capitalization rates to employ. I shall not attempt here to deal with the problem of price forecasting, since I know of no suggestions that I might make that have not already been made. However, the usual method of selecting a normal or base period price level should, when critically done, improve upon the usage of the market which as noted above, weighs most heavily the experiences of immediately preceding years.

No such normals are available for use in the selection of capitalization rate and the appraisal profession has no choice but to come definitely to grips with this somewhat delicate matter. The matter is delicate because small variations in the capitalization rate reflect themselves so largely in the values derived.

Chambers<sup>2)</sup> in the early twenties chose the average mortgage rate of interest of the community as the best overt expression of the capitalization rate of that community. He does not explicitly state just how such mortgage shall be determined. One cannot, therefore, ascertain whether he refers to (1) the average rate at which money could be borrowed upon real estate mortgage security at the particular date of reference or (2) to the rate that had been typical over the period of, for instance, the preceding year or (3) the average rate on mortgages in existence in the community at the time.

This last average rate, while the most stable of the three, would be higher than the rate at which new borrowings could be made if such rate had been falling for a period and lower if it had been rising. Probably therefore, the average rate on mortgages in existence would not reflect well the capitalization rate. On the other hand the current mortgage rate need by no means be what the community expects the rate to be over the long period during which land purchase and sale contracts normally extend. Perhaps the average rate over some such period as the preceding

1) For a further discussion of this point see article on "Land Values and Government Agricultural Policy" by the Author, *Journal of Farm Economics Proceedings* Number—February 1939, page 288 ff.

2) In the U.S.D.A. Dept. Bulletin 1224, "The Relationship of Land Income to Land Value."



year or two is most likely to represent the community's idea of the mortgage borrowing rate.

The borrowing rate need not, however, also be the capitalization rate, because it represents a response to quite different forces. To begin with, mortgage credit is not extended alone or even preponderantly for lend purchase. It is employed for refinancing, to provide buildings and other more or less permanent improvements, to purchase equipment and livestock and for a great many other purposes. The forces, which determine the mortgage rate of interest, therefore, are a composite of the lenders evaluations of risks and returns on money loaned for such purposes and of the borrowers evaluations of the anticipated marginal efficiencies of the types of capital in which the money is ultimately to be invested.

Secondly, mortgage rates under modern circumstances are becoming more and more institutionalized. A great share of mortgage credit is now extended in the United States by the Federal Land Banks and by the Land Bank Commissioner. Federal land bank and Commissioner loan rates are determined by congressional statute and by the investors' regard for debentures more or less under the protection of the Federal government and increasingly regarded as a responsibility of such government. At present these rates are unduly low and represent subsidized credit. The loans of the Farm Security Administration are even more heavily subsidized. Neither buyers or sellers of land are likely to feel that mortgage rates, so determined, are necessarily representative of the prospective risks and returns from land sale or purchase.<sup>1)</sup>

Third, the question may be raised: Is it the mortgage rate or the borrowing rate that figures most in the usual sales transactions that determine the market value of land? The bulk of mortgages probably have little or no connection with the transfer of land. When a mortgage is written in connection with a land sale or purchase the transfer is one in which a more than usually large percentage of the contract price is paid at the time of the bargain. The typical land transaction by contrast is one where the land is sold under contract with a small (10 to 30 percent) down payment. The contract rate employed in the land transfer transaction is for these reasons, customarily above the mortgage rate by as much as 20 or 25 per cent. For instance, if the mortgage rate is 4 per cent the typical contract rate may be 5 per cent.

Finally the mortgage rate has tended under modern circumstances in the United States to become uniform over virtually all areas because of the policies of public lending institutions such as the Farm Credit and Farm Security Administration. Variations of farming risks, however, remain about as great as ever. If the risk influences the capitalization rate, and it is generally conceded to do so, the capitalization rate will tend to vary much more from area to area than the mortgage rate and the two should no longer be expected to coincide.

Historically, also, the capitalization rate will tend to depart more or less violently from the mortgage rate of interest as the evaluation of the risks of land investment changes. During recent years the capitalization rate has, in my estimation, been well above the mortgage or borrowing

1) This point is one of importance in a period when something more than 40% of all mortgage credit has been obtained from public institutions such as the F. C. A. and the F. S. A. as is true in the United States at present.

rate in the United States partly because of the efforts of government to hold the borrowing rate down and partly because the risk of land investment is now generally regarded as much greater than it was formerly thought to be.

In summary, while the average mortgage rate of interest is the rate at which farmers do their long period borrowing, it is probably not accurately representative of the capitalization rate. Farmers borrow on land security for many purposes quite unconnected with land purchase and the security offered and the risks accepted and taken in the usual mortgage transaction are quite different from those involved in the usual land transaction. That is, land purchase is affected by a special set of risks and these risks are unquestionably reflected in the capitalization rate. Commonly such risks are greater than those typical of the general run of mortgage transactions.

It is my judgment, therefore, that the mortgage rate marks the lower limit of the capitalization rate and is approximated only during periods when the risks of land purchase are estimated to be very low. Perhaps much more often the capitalization rate is above the mortgage rate and in periods such as the past decade, during which the experience of land investors has been so universally unfortunate, the capitalization rate is well above the mortgage rate. Likewise, as the mortgage rate reflects more and more the arbitrary levels determined by government sponsored institutions and as it becomes increasingly subsidized, it tends less and less to reflect the capitalization rate.

#### **Practical Determination of the Capitalization Rate**

As far as the practical determination of the capitalization rate for appraisal purposes is concerned, the above discussion is pertinent in so far as it indicates proximate upper and lower limits of the rate. The lower limit is the current average farm or real estate mortgage rate. The upper limit is probably most nearly indicated by the rate employed in the typical land sale and purchase contracts. During periods when the appraisal of investment risks is high because of a preceding period of falling land values, great numbers of foreclosures, and unusually unfavorable weather, the capitalization rate almost certainly approaches very closely the average contract rate. During periods when farm incomes and land values have been stable for a time, or when incomes and values are rising, the capitalization rate will equal or closely approximate the average mortgage rate.

With these upper and lower limits established it should be possible at any time for the appraisal group to make a shrewd choice of a proper rate for capitalization purposes. Undoubtedly, however, much more research is needed to establish the typical mortgage and contract rates and the margins between them. The contract rate is still a relatively free rate though it is undoubtedly drawn to the mortgage rate as by a strong magnet. Its relatively greater responsiveness to market forces, however, is an advantage. That is, making the capitalization rate dependent in part upon the contract rate will permit it to vary from area to area as does the contract rate. In other words, the profession can be freed of the need to depend upon a single rate for an entire state or province as it appears to be more or less customary procedure at present.

I do not wish to be thought of as minimizing too greatly the difficulties of determining the capitalization rate by the consideration of mortgage and contract rates. Indeed, contract rates themselves are not too readily definitive. In the usual land purchase and sale agreement price and rate are to a degree dependent on one another. That is, a seller may concede something in price if the purchaser concedes something with respect to the rate, and **vice versa**. It is still necessary, therefore, to depend upon the averaging out of extremes of both kinds. Likewise, the investigator should seek to support his judgment by a knowledge of other rates such as those upon long time federal, state (or provincial), or municipal bonds, or the bond rates of township, county, or school district issues typical of the area under consideration.

### Home and Location Features

Even if questions of the level of costs and prices and of the rate of capitalization to use are resolved the income-capitalization method will continue to be incomplete under certain conditions. Some lands are not valued for their earnings power alone but have a consumption use and value as well. It has been customary to refer to such uses as deriving from the "home and location features" of the land or farm. These features may be desirable or undesirable as the case may be but, for the most part, represent unique rather than general situations.

Unique situations are monopoly situations and in evaluating these home and location features the theories of monopolistic competition are most applicable. Market values, if sales of reasonably similar places can be obtained, may help. In the strictly unique situation, of course, sales of similar properties are simply not available and to the degree that such features are not unique they present no particular problem.

About the only light that theories of monopolistic competition furnish in relation to this problem is that they help to indicate the range of indeterminateness of value for each situation. Accepting capitalized earnings value as the norm, the market value of a property with more than usually desirable home and location features will vary from a minimum set by capitalized earnings value to a maximum of this value plus an additional amount equal to the maximum that a buyer most desiring the particular home and location features will pay. On the other hand, where these home and location features are undesirable capitalized earnings value represents the maximum and the minimum will be the capitalized earnings value minus the discount that the **average** or **normal** buyer will insist upon because of the undesirable features. At times the range between maximum and minimum will be large and at other times small. In any event, the appraiser in evaluating properties materially affected will, perforce, need to pass judgment not only upon the property but upon the market for the property as it is affected by these home and location features.

### Size of Farm and Calculation of Net Earnings

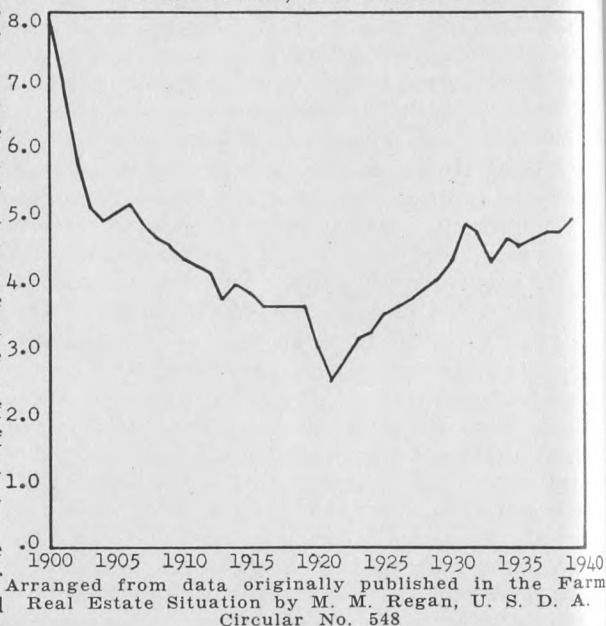
A further difficulty, and one not yet too well understood, occurs in connection with the determination of the effect of size of farm on its value and the method to employ to determine net earnings. The relationship of size to the value of farm is extremely complex and intimately associated with the problem of how earnings are to be calculated.

At least two recent studies, one from Missouri<sup>1)</sup> and one from Saskatchewan,<sup>2)</sup> have indicated that net earnings available for payment of rent or the retirement of debt tend to increase as the size of farm, measured in acres, increases. A long list of presumptions underly the results in each instance, however. In the Saskatchewan study, for instance, net earnings are determined by deducting from gross receipts calculated upon the basis of average yields or production and an assumed level of prices (1) a fixed or relatively fixed allowance for family living expenses, (2) normal operating expenses, and (3) certain arbitrarily but reasonably calculated fixed expenses or costs. The type of farming was apparently the same for all sizes of farm. In the Missouri study somewhat the same procedure was followed except that neither yields nor type of farming were held constant. That is the relationship of size of farm to net returns available for the payment of rent were determined from the data of schedules taken specifically for the purpose.

Studies of this type are valuable for the light they throw on renting, mortgage lending, and farm management problems. They are relevant, also from the viewpoint of appraisal but should not be thought of as exploring the entire field of the relationship of size of farm to land income. In fact, in both studies the relationships that were discovered were for particular areas, and particular situations only.

In these areas (and in many others) economic and technological factors apparently favored the larger sized farm given the assumed price, cost, and yield assumptions under which the studies were made. In other areas similar studies could as well have discovered that the smaller farms were upon certain selected bases the more efficient and the higher valued per acre. Farms are, apparently, breaking up into smaller acreage units, for instance, in areas near the larger and more rapidly growing

Figure I—Ratios of Net Rents to Farm Real Estate Values, Iowa—1900-1939



1) Rawlings, Brown R. and Johnson, O. R., "Relationship of Productivity of Farm Units and Their Ability to Pay Rent, Missouri Ag. Experiment Station, Research Bulletin No. 308.

2) Allen, Wm., Hope E. C., and Hitchcock, F. C., "Probable Net Farm Revenues for the Principal Soil Types of Saskatchewan, College of Agriculture, University of Saskatchewan, Ext. Bul. No. 64.

cities of the continent. In dairy sections of southwest Missouri farms have become smaller during recent decades and in the river bottom lands in Missouri, also, grain farming has in some sections given way to truck and diversified general farming upon smaller acreages. In many areas in the United States the effect of urban unemployment has been to place a premium upon smaller farms as places to earn somethings towards a living by part-time farming. In general technological and economic changes are constantly tipping the balance one way or the other with respect to the size of farm.

Furthermore, the large and the small farm fare quite differently during periods of rising and of falling demand. Farm management research has long made the point that while the larger farm nets more during rising demand and prices than the small farm the advantage is the other way around during depression. If prices and costs were perfectly stable there would be no obstacle to increasing farm size and all farms would in time come to be virtually under a single management. That is, the risks and incapacities of management under dynamic conditions appear to be the sharpest limitation on farm size.

The smaller farm and the smaller investment can, to put the matter in a different light, be defended more easily in slack demand periods and may, actually, command a premium over the large farms in price per acre when the demand for investment security is great even if the large farm is demonstrably more efficient during normal price periods. In fact, there have been reports from many sections of the United States in recent years of a great demand for the smaller as contrasted to the larger farm despite persistent evidence that, because of advancing technology and the like, the larger farms may in the end prove to have been the better bargains.

Now the gist of this matter for appraising is that market considerations and efficiency considerations will from time to time place the larger (or the smaller) farm at a premium or discount as the case may be. The premium or discount will depend upon the price and technological stability of the times and will vary from area to area as well as from time to time. In each type of farming area there will be some narrow range with respect to farm size that will most suit the market and will be most in favor with farm managers and the like. All other farm sizes will be at a discount. This discount is not, as far as I have been able to observe, likely to be very large. The appraiser must, however, be aware of the possibility of such discounts and be prepared to adjust for them. Perhaps a study of sales values of various sizes of farms after the manner of the comparative method will provide a clue to the amount that these untypical sized farms should be discounted in evaluation. In employing the income-capitalization method the appraiser will need to be aware of the influence of these size of farm effects on value. Capitalized earnings values of farms quite untypical of the community can hardly be a satisfactory basis for appraisal.

Furthermore, the whole income-capitalization method becomes labored when applied to the very small and particularly to the part-time farm.<sup>1)</sup> Such farms do have a sale value often quite out of proportion to their value as derived from the capitalization of net earnings attributable to

1) See particularly Gaddis, P. L., "The Appraisal of Farm Lands". *Journal of Farm Economics*, May 1937, p. 401 ff.



the property. Here again the matter of home and location features and the problem of appraising the value of the amenities or consumption aspects of land is involved.

This consumption or level of living factor touches appraising quite as directly also in the selection of the method of determining earnings values. The two general methods are (1) the accounting or farm management method and (2) the typical landlord or rental share method.<sup>1)</sup> The accounting method necessitates more estimating than the rental share method but has the advantage that it may be used where there is little leasing or where the determination of the typical rental share is more than usually difficult. The rental share method avoids the need for estimating such things as the level of living necessary to remunerate family labor and of determining the returns to the operators management.

The accounting method with its inflexible allowances for family living for instance often leaves no return or a negative return for property income upon the small sized farm.<sup>2)</sup> Such results are incongruous to the extent that such lands often have a market value. Where typical rental shares may be determined therefore, that method should be used. Where such rental shares cannot be satisfactorily determined the appraiser will of necessity have to use the sales or comparative method unless indeed the accounting method of net property earnings determination can be made more flexible than it has proved to be heretofore.

### **The Value of Improvements**

There is not time at a meeting of this kind to go deeply into the complex matter of the appraisal of buildings and improvements. At one point, at least, the problem of the rural appraiser with respect to the evaluation of these improvements is unusual and perhaps some comments may prove helpful. Put in its most blunt terms the question at issue may be phrased: Are there times when unimproved land of a given quality is as valuable as improved land? If, as in fact often proves to be the case, unimproved land can be leased by the owner on as favorable terms as the improved, the question arises whether improvements add anything at all to land values.

It is notable to begin with that this question of the value of improvements never arises in a new country but always in a well settled community only. In communities where situations of this kind arise there must also be an excess of buildings or other improvements to the extent at least that such improvements may on occasion be more fully utilized if additional rented land may be associated with them. If all improvements in the community in which the unimproved land is situated are fully utilized (that is employed at least cost or highest profit combinations) there will be no unusual pressure to rent the unimproved land for the sake of the additional economies of improvement utilization to be gained thereby. Unimproved land under such circumstances will sell at bare-land prices only.

If, however, several farmers in the community do have building space for labor, livestock, workstock, and machinery the returns to which can be increased by the renting of additional land they will bid for the land, not only a price representing its marginal productivity, but something

1) See the discussion of these two methods in Saskatchewan "Textbook for Assessors", Report p. 83 ff.

2) As in both the Sask. and Missouri studies referred to above, see page 24.

additional. Here again there is encountered a "range of indeterminateness" with respect to the value of the unimproved property that cannot be resolved except by a close examination of the situation in the community in question. The lower limits of the value of the unimproved land will be its marginal productivity without benefit of improvements. The upper limit of its value will be determined by competitive bidding of those owning nearby improvements and the absolute upper limit will be set by the bid of that man whose improvements are such, in respect to degree of utilization, that he can afford to outbid all others for the use of the land. In an over-settled and over-built community therefore there may be virtually no difference in the per acre value of improved and unimproved land. In the under-settled and under-built community, by contrast, added improvements will proportionately increase the value of the property.

### **Increments and Decrements in Land Valuation**

In the land value discussions of the past century there has been much discussion of land value increments but very little of decrements. The fact is not surprising since all during the 19th and the early years of the 20th century land values rose steadily. The break, as is well known, came in 1920, since which year land values rather generally have declined.<sup>1)</sup>

The land value prospects of the present day are so different from those of a century ago that a somewhat more careful taking stock of the general situation is a necessary part of any appraisers equipment. Decrements are quite as prominent a part of the prospect as increments and it is particularly necessary now that inquiry into the nature of possible decrements (as well as increments) be most seriously studied.

In the full theory of increments and decrements there are two planes of discussion. On one plane is the consideration of those general features of economic change that affect the level of land values and on another plane the consideration of land depletion (and appreciation) as encountered on a particular farm or in a particular area. The appraiser is concerned with both planes of discussion, but much more intimately with the latter.

Perhaps the most important change in the general prospect over that of a century ago is the population outlook. Populations of the United States and Canada a century ago were growing very rapidly and there was no near prospect of a serious slowing down of the growth rate. Present prospects are that populations in the United States will shortly be at a standstill. The outlook is apparently much the same for Western Europe which is the chief export market for the farm products of this continent. The effect of this changed outlook on land values cannot well be measured but it is regarded generally as clouding the prospects for future land value increments.

In direct contrast with these changed population prospects the march of science and technology appears to be one of rising tempo. The effects of technological change are diverse. Much of scientific advancement, however, has both a widening and deepening effect on the utilization of resources. That is, it increases the numbers and types of resources that can be utilized effectively and increases the number of uses that can be

<sup>1)</sup> Perhaps the observation is worthwhile that it took the severe declines in land values of past years to raise rural appraising to the professional level. Rule-of-thumb appraising was quite sufficient as long as land values rose.

made of a particular resource. Such advances, of course, reduce costs of exploitation and at times tend to raise rather than lower resource values. On balance, however, the influence on land values will probably be to reduce them.<sup>1)</sup> Particularly is this effect probable under circumstances of approaching stationary or even declining population.

The effects of these changes in population prospects and in the tempo of scientific advancement on land values is a slow or trend effect to be taken account of in the establishment of the general level of values and in the setting of safety margins rather than in the appraisal of a specific tract of land. Some other general economic prospects such as those relating to the foreign markets for farm products and the rates of consumption, savings and investment as these affect the level of domestic economic activity and demand for farm products are relevant in the land value equation. These exert not so much a trend effect, as in the case of population and technological change noted above, as an uncertain effect. They are, therefore, also, not relevant in the specific appraisal situation, but chiefly in the determination of safety margins.

Of a quite different nature, however, is the recently noted tendency for land value movements to assume a cyclical shape. Bean<sup>2)</sup> found this cyclical tendency appearing in the movements of farm land values in Missouri for the period 1820 to 1938. The cycles varied from 17 to 20 years in length, and from a relative point of view, were much more violent in the 19th than they have so far been in the 20th century.

Probably underlying these cyclical value movements is a similar cycle of the relationship of returns to land owners and investors. Data on the ratios of net rents to land values for Iowa as illustrated in Figure I indicate the existence of such a cycle though there is little apparent relationship between the movements of these ratios and the cycles of values in Missouri as noted by Bean. Perhaps, however, recent violent economic shifts have for a time distorted the cycle.

The ratio of net rents to land values in Iowa in 1900 stood at 7.9 per cent. It fell to a low of 2.5 per cent in 1921 and by 1939 had risen again to 4.9 per cent. Data are not yet available to establish beyond peradventure the existence of a cycle in these returns and it would, therefore, be foolhardy to forecast anything with respect to future movements. However, it is notable in connection with the statements made heretofore in connection with the capitalization rate, that these ratios have tended to rise during the period since 1921 when, presumably, also the risks of land investment have been increasing.

### Decrements and Land Depreciation

In the consideration of increments and decrements, these cycles are in any case, mere epiphenomena, and there is much more need at present for the appraiser to sharpen his judgment with respect to land depletion. Though such depletion is a persistent force for land value decrements, little is known about it and American agriculture is too newly out of the

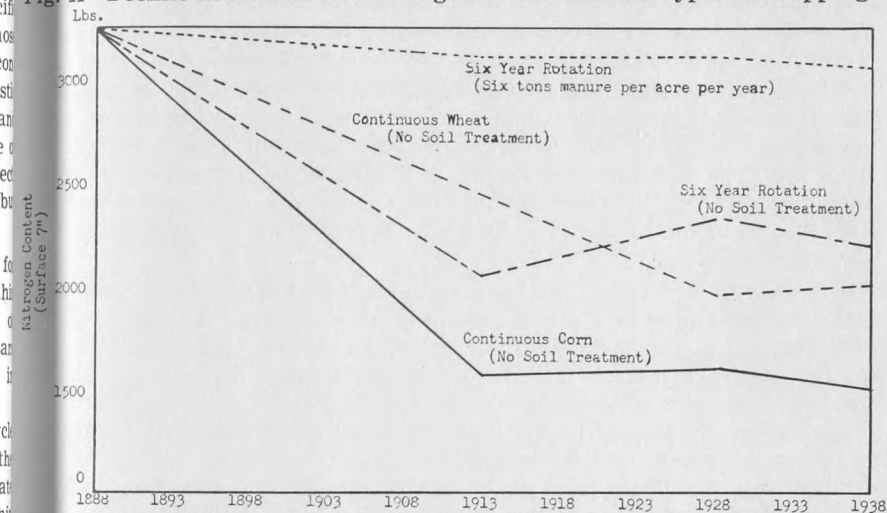
1) See in Dowell and Jesness—Economic Aspects of Hybrid Corn. *Journal of Farm Economics*, May 1939. They state pertinently (page 487) "As hybrid corn serves to make the available land yield more physical output, it intensifies the land supply situation. While some lands may rise in value because their advantage over other lands is increased, the general tendency appears likely to be one of lowering values."

2) Inflation and the Price of Land. *Journal of Farm Economics*, Proceedings Number for 1938, page 314.

stage of mining virgin soils to give it the attention it should have.

Fertility losses on the one hand and the outright loss of soil because of erosion, on the other, are the two great types of land depletion. There is no need to report here the ravages of erosion and the tons of soil nutrients that are removed from the soil each year.<sup>1)</sup> For land valuation the important matter is rather: How should the prospective effects of such depletion be gauged and evaluated?

Fig. II—Decline in Surface Soil Nitrogen Under Various Types of Cropping.



Data Supplied by the Dept. of Soils, College of Agriculture, University of Missouri.

The problem is in reality one of judging the durability of soil and land productivity. Available empirical data on the declines in productivity under the many possible combinations of soil type, length and degree of slope, and type of use are still most notably lacking. In figure II are given data on the nitrogen content of soil after 50 years of various kinds of use and treatment as observed on contiguous plots at the Sanborn Experimental Field at the University of Missouri. Erosion losses were virtually nil and the data represent, therefore, fertility losses only. The nitrogen figures are available only for the years 1888 (estimated) 1913, 1928, and 1938.

Under continuous cropping to corn with no treatment of any kind the nitrogen content of the surface 7 inches had fallen from 3250 pounds in 1888 to about 1600 pounds in 1913 and held at approximately that level through 1928 and 1938. Under continuous cropping to wheat the decline in nitrogen was neither so rapid nor to so low a level and, in 1938, stood at 2200 pounds as contrasted to the 1600 pounds in the case of corn. A six year rotation unsupported by soil treatment yielded a rate of decline in nitrogen between 1888 and 1913 somewhat less than that for continuous corn but greater than that for continuous wheat. Apparently the base level to which this type of depletion descends is, however, somewhat

1) Those wishing information on these points may, however, refer to the Report of the National Resources Board on Land Use. U. S. Government Printing Office, 1934.

higher in the case of the rotations than for either corn or wheat alone since the nitrogen has apparently stabilized at a somewhat higher figure.

These data and other known facts indicate that fertility depletion in terms of nitrogen is rapid for the initial periods of use, much slower subsequently, finally reaching virtually a base level beyond which it does not go or goes only very slowly. Erosion losses probably follow a very different curve being slow at first during the period while fertility is high so that the land reclothes itself with vegetation quickly after plowing and cultivation and proceeding at a much more rapid rate during later stages particularly after a sensible proportion of the topsoil has already been removed.

Data which would permit the derivation of these curves of depletion under various conditions would help materially in the process of land valuation. They will need to be provided for each type of soil, degree and length of slope and kind of use if they are to be sufficiently comprehensive and soil men will increase their usefulness to the appraisers somewhat in direct ratio to the speed with which they fill in this notable gap in our knowledge.

Even with these data available and techniques of estimating depletion rates for particular farms more securely known, there still remains the difficult job of determining their effect on value. This job has two dimensions. (1) There is first the job of determining the rate of depletion in value terms under actual or assumed conditions of use. Mr. Ibach has made a good beginning in the making of such analyses for the Putnam silt loam prairies of northeastern Missouri. He estimates that the annual decline in productivity from both fertility and erosion losses in Audrain County under conditions of use typical of the early 30's was at the rate of 3.0 per cent of the stock of surface soil nitrogen each year.<sup>1)</sup> He calculates further that the reported net rent of \$2.95 for Audrain County when corrected by this decline in productivity (assumed to be continuous) would (capitalized, at 5%) result in a present value of \$27.00 per acre rather than the \$59.00 per acre which would have been correct had there been no land depletion. That is, he discovered that this 3 per cent annual depletion rate reduced the value of the land by more than half.

(2) The task of translating the effects of depletion into value terms does not end here, however. Depletion is by no means an entirely necessary aspect of land use. Partly it is a matter of carelessness and lack of information and partly a judicious balancing of cost alternatives. Often it is not difficult nor at all expensive to check depletion almost completely. Indeed Ibach estimates that changes in farming systems in certain portions of Missouri resulting in virtually complete control of productivity losses and at the same time increasing farm income, can readily be made.<sup>2)</sup> Dr. Buncie of Iowa State has probed even more deeply into the theoretical considerations governing costs and output relationships in the control of erosion and fertility losses.<sup>3)</sup>

Some experimental data of the University of Missouri give a further

1) See his article on the Role of Soil Depletion in Land Valuation, *Journal of Farm Economics*, May 1940, page 460 ff.

2) See, for instance, *New Farming Systems applied to Southwest Missouri* Farm University of Mo., Agricultural Experiment Station, Circular No. 370.

3) See his paper on Home Economics and Social Problems of Soil Conservation (Mimeographed) December, 1939.



clue to these cost of control of depletion. In Figure II above, for instance, only 6 tons of manure per acre were required each year in connection with the 6 year rotation to maintain the nitrogen content of the soil. On other plots applications of lime proved sufficient to maintain or increase the nitrogen level under an extended series of rotations of various kinds. In short, the expense of soil and land maintenance, despite spectacular evidences from past periods of misuse, is probably, in the preponderance of situations, very modest indeed.

In making a specific evaluation, therefore, the appraiser will need to estimate the net rate of depletion, taking account, in effect, a crude rate and correcting this by his estimate of both by a consideration of the probability of the adoption and cost of practices which will reduce the depletion rate.

### SYNTHESIS OF MATERIALS FOR APPRAISING

I—Introduction: A. Metamorphosis of appraising; B. Welding of soils and economic data in scientific appraisal; C. Topics for development.

II—The preparation of soils data: A. Appraiser must be able to interpret productivity and durability of soil; B. Scientific soils knowledge essential; C. Some simple field tests; D. Continued dependence upon soil scientists; E. Improvements needed for soil interpretation by the appraiser.

III—Use and interpretation of Soils Data: A. Two major methods: 1. Soils—yields—values; 2. Direct relationship of soils characteristics and values. B. Albrecht theory of the relationship of the calcium-potassium ratio and proteinaceous plants; C. Supplementary character of soils knowledge and yield data.

IV—Land Classification For Appraising:

A. Classification would aid the appraiser.

B. Classification for appraisal alone not likely to be considered.

C. Assessment and appraisal would be served about equally well by the same type of appraisal.

D. Characteristics of the assessment-appraisal classification.

1. Distinguishing the procedural steps of classification, analysis and evaluation.

2. Classification and analysis in relation to static and dynamic aspects of land and land use.

3. The differential versus the synthetic approaches.

4. Advantages of the differential approach.

V—Restatement of the Theory of Value:

A. The two contrasting approaches:

1. Comparative. 2. Income-Capitalization.

B. Advantages and limitations of comparative approach:

1. Dependence upon market or sales values.

2. Dependence of market upon past experience.

C. Features of the income-capitalization method:

1. The search into the nature of factors determining value.

2. Fixing attention on future developments.

3. Significant by-product data.

D. Theories of the capitalization rate:

1. The mortgage rate of interest as a determinant of the capitalization rate. 2. What mortgage rate?

- a. Average rate at which money may be borrowed at a particular date.
  - b. Rate typical over a period.
  - c. Average rate of mortgages in existence at a given time.
- 3. The mortgage borrowing rate not the capitalization rate.
  - a. Mortgage risks not universally or usually land purchase risks.
  - b. Mortgage rates now widely subsidized.
  - c. Mortgage and contract rates differ.
  - d. Area uniformity of mortgage rate in the United States.
  - e. Difficulties of getting a definite expression of the contract rate.
- E. Home and Location Features:
  - 1. Consumption and amenities aspects of land use and income.
  - 2. Unique or monopoly situations.
  - 3. The upper and lower limits of home and location features premiums and discounts.
- F. Size of Farm and Calculation of Net Earnings:
  - 1. The Missouri-Saskatchewan studies of relation of net earnings and size of farm.
  - 2. Other determinants of farm size: a. Area variation. b. Technological—price changes. c. Investment, defence and security.
  - 3. Normal size for the period and area.
  - 4. Discounts for untypical farms.
  - 5. Methods of determining net property earnings: a. Accounting of farm management method. b. Typical rental share method.
- G. The value of Improvements:
  - 1. The value of unimproved land:
    - a. In a new country. b. In a closely settled country.
  - 2. The upper and lower limits of appraisal values of unimproved lands in settled communities.
- H. Increments and decrements in Land Valuation:
  - 1. Land value prospect of today:
    - a. Population outlook. b. Technological changes and prospects.
  - 2. Land value cycles.
  - 3. Decrements and Land Depreciation:
    - a. Fertility losses. b. Erosion losses.
  - 4. Nitrogen decline under different cropping systems under Missouri conditions.
  - 5. Curves of fertility losses:
  - 6. Decrements and appraisal: a. Estimating the rate of depletion. b. The costs of curbing depletion.

## Discussion of "THE SYNTHESIS OF MATERIALS FOR APPRAISING"

A Paper Delivered by Conrad H. Hammar

By E. C. HOPE, University of Saskatchewan

I must congratulate Dr. Hammar on the excellent paper he has presented. It is no small task to cover so much ground in the field of land economics in the confines of a single paper. Dr. Hammar's special

field is Land Economics, my own is Farm Management. While we probably approach the subject matter of his paper with somewhat different backgrounds, yet I find myself substantially in agreement with his views.

I approach this subject as one who has had considerable experience in Farm Management research in Western Canada during the past 10 years, but with no practical experience in Land Appraisal. To me appraisal is a relatively new field; even my reading on this subject is probably much less extensive than many of you here today.

For the above reasons I do not speak on this subject as an expert or specialist with any pre-conceived notions of finality with respect to appraisal method, procedures or theories but rather as one who is still in the process of doing a considerable amount of groping and feeling around for a reasonably satisfactory answer to the many appraisal problems, even if they are not final answers.

Dr. Hammar has presented his subject under three main headings: "Soils", "Land Classification" and "Land Values". I shall discuss his paper under the above headings:

Dr. Hammar has pointed out the vital importance of a sound knowledge of soils as one of the essential prerequisites of a good and reliable land appraiser. This cannot be stressed too much. In many areas, the appraiser has to work in an area which is not covered by a soil survey map and he must rely entirely upon his own knowledge of soils in the tabulation of the soils inventory of the farm. Even in areas that are covered by soil maps errors in soil mapping will appear from time to time; this is particularly true in areas covered by reconnaissance soil surveys. Soil scientists themselves are the first one to admit the limitations in the use of the reconnaissance soil survey. But in the hands of an appraiser, who has a good knowledge of soils, these maps are very valuable tools in appraisal work. Because of the cost of soil survey work for many years to come wide areas will of necessity be covered only by this more generalized type of soil survey. This particularly applies to the prairie provinces of Canada and no doubt to the Northwestern States.

In the prairie provinces our researches are gradually adding to our knowledge of the long time wheat yields of the different soil types within certain specific regions. In the future it will be increasingly important in Western Canada for appraisers to be able to identify soil types in order to grade individual farms with respect to anticipated long time wheat yields.

Dr. Hammar has indicated the great value of land classification as a guide for the appraiser. He points out that a proper classification of land will increase the discrimination of the appraiser and reduce appraisal errors. He also states quite definitely the danger of attempting to place a value on the respective categories in a classification. I find myself in complete agreement with these views. However, he advocates the use of the "differential system of land classification", whereby separate criteria are mapped separately, such as topography, stoniness, soil, arability, and the like. The suggestion is made that it is virtually impossible to make a complex of these separate criteria in the form of a land classification map. Here I find I cannot agree.

It is the job of the researcher to find suitable ways and means of combining the effects of these separate criteria into one complex whole. It

seems to me to defeat the real purpose of land classification, to leave the job half completed, by not taking the final step and placing land areas in definite economic categories, even though no Dollar valuation is placed on them.

It is true that in making the final complex economic land classification map errors of judgment will creep in. It is also true that in time some of the more dynamic factors might tend to cause some shift in portions of land classes, but if care is taken to see that as many relatively static factors as possible go into the make-up of the final economic land classification map, then surely the advantages far outweigh the disadvantages of such a procedure.

In Saskatchewan and Alberta we have proceeded on the assumption that land appraisers, land assessors, Governmental authorities and the buyers and sellers of land would be interested in an economic land classification map. As the classification has so far been confined largely to the prairie region, we have based the classification chiefly on estimated long time average wheat sales for quarter section units, which in itself is a complex of soil type, weather conditions, climatic zones, hail risks and the like. In addition to wheat production the modifying influences of topography, stoniness and abandonment history play a part in drafting the final land classification map. There are so far five land classes which have been designated. They range from land class I, land better adapted to grazing than wheat production, to land class V, excellent wheat land. The approximate range in long time estimated wheat sales per quarter section are as follows:

- Land Class I — under 350 bushels
- Land Class II — 350 to 474 bushels
- Land Class III — 475 to 720 bushels
- Land Class IV — 721 to 900 bushels
- Land Class V — 901 to 1120 bushels.

Some 8 million acres of land in Saskatchewan and 6 million in Alberta have now been mapped by the above briefly described procedure. We feel that the use of these land classification maps is going to be of increasing importance to people interested in the land problem, particularly with reference to appraisal and loaning policies.

With respect to land appraisal, land class maps should help the appraiser to place farms in approximate comparative categories. As Dr. Hammar has pointed out their use should help to avoid serious errors in appraisal. With respect to loaning policy the use of land classification maps will definitely tend to bring about a more cautious loaning policy on the lower land classes, such as land classes I and II where experience has indicated that farming operations have not been successful.

In opening his discussion on the theory of land value Dr. Hammar refers to the constant struggle between the two approaches to land valuation, the comparative and income-capitalization approaches. Here I find myself in some disagreement with his definition of the comparative method of valuation when he assumes that it implies the use of current market prices for land. It is quite true that at times current market prices for land are only remotely related to present or future incomes. Except in periods of relative stability the use of current market prices

would undoubtedly lead to serious over- and undervaluation. It seems to me that the comparative method as a definition can be used to include the concept of a normal market value for land as expressed in an average of previous years of sales experience in any given region.

Used in the sense of long time normal value it would appear that the possibilities of using values established by the comparative method should receive a great deal more attention than it is being given today in appraisal circles. The comparative method has some advantages compared with any income-capitalization method of valuation. It tries to get as close as possible to long time normal value, using value of a property in the strict sense of money value representing a fair exchange between willing buyers and sellers of land. In theory, valuation by the income-capitalization method with certain additional adjustments should aim at the same final solution as that obtained by the comparative method, assuming that the same period of years is used in both cases. If it does not, then it seems to me that the income-capitalization approach to valuation loses a good deal of its usefulness.

Dr. Hammar has pointed out that the use of the income-capitalization method does involve a number of unmanageable concepts, not the least of which is the capitalization rate. He points out that the most likely capitalization rate of farm income lies somewhere between the mortgage rate of interest and the land contract rate. Apparently in the areas of the United States with which he is familiar the land contract rate of interest is usually 20 to 25 percent higher than the farm mortgage rate of interest. In Saskatchewan the opposite situation usually holds true. For some years prior to about 1931, the typical mortgage rate was 8 percent with practically no regional variations. During this period land contract interest rates have ranged downward from 8 to 6 percent, with nearly all private, Hudson's Bay Company, and Railway land sales at 6 percent.

But even knowing the mortgage and land contract interest rate still makes it extremely difficult to say what is the most likely true capitalization rate. From our researches in Saskatchewan we believe that in the past farm land values have reflected farm earnings capitalized at less than 6 percent, in fact more probably approaching 3 to 4 percent on the average. This apparently lower rate may be due to a speculative feature of land values not related to current income but based on past experiences of rising land values.

This brings us to a consideration of the so called over-valuation of poor lands. In practically all farm management studies, if a uniform interest rate charge is used on the capital value of the real estate as rent it will be found that the farmers on poor land do not make a subsistence living. It is only by being relatively debt free that they can stay on the land at all. Because of this situation these lands are considered to be overvalued. But I sometimes wonder if our usual method of accounting gives us sufficient evidence to warrant this statement. Farming is different from other business in many respects. When a farmer buys a farm he buys a place to invest his savings, a permanent job and a home for his family. Might it not be that the job and home aspects, be they ever so poorly paid and ever so humble have a relatively high value to the farmer on poor land? It seems to me that it is because of the inability to place a money value



on these intangible sources of satisfaction that we arrive at the conclusion that these poor lands are overvalued. Surely it would be more realistic to appraise these poor lands not by any capitalization process but on the basis of normal sales values and make the loaning policy conform closely to the expected relatively small surplus income available.

It is virtually impossible to find out what has been the actual capitalization rate of farm incomes in the past, as reflected in farm values. This lack of past knowledge makes it extremely difficult to make an approximation for the future. One might argue for days on the correct theoretical rate to be used and still not reach a satisfactory answer. If the income-capitalization method of appraisal is to be used, probably the only way to establish a rate is, as Dr. Hammar states, to make a "shrewd choice" taking into consideration the mortgage and sale contract rates.

After giving considerable thought to this question the Saskatchewan Assessment Commission has used a rate of 5 percent in arriving at the maximum valuation for assessment purposes. But even the use of this rate might require considerable defence.

In his discussion of size of farm in relation to net farm earnings, Dr. Hammar refers in this connection to a bulletin published by the University of Saskatchewan. This publication indicates quite definitely the relatively low debt carrying capacity of small farms and particularly small farms on poor lands. It should be kept clearly in mind that the examples shown in this bulletin are for specific areas under specific type of farming conditions. The measure of size of business is in acres. It may be true, as Dr. Hammar suggests, that in some areas small farms may do as well or better than large farms. But I suspect that if such is the case these farms are large or small not because of their acreage but due to some other measure of size of business such as amount of livestock carried. I believe it is still a sound statement to make that over a period of years the large farm business will show greater surplus income above farm costs including rental charges than the small farm, or in other words it will have relatively more surplus income for debt service. In Saskatchewan we measure the size of business by the acres of crop-land, in New York they may measure the size of business by the number of cows or the number of hens on a farm.

The acceptance of the above statement does not prevent one from agreeing with Dr. Hammar that the small farm may be relatively safer than the large farm in times of economic depression or of crop failure. This is due to the much higher ratio of living costs of farm expenses in the case of the small farm, compared with the large farm. Reductions in living costs by the operators will give a considerable degree of flexibility in servicing debts and in meeting operating expenses.

The fact that the small farm has relatively little net income above all farm costs which may include a labor and management wage or family living costs, which in actual practice are substantially the same, precludes the possibility of using the net income of the whole farm in the capitalization process for valuation purposes. In this respect, I find myself in complete agreement with Dr. Hammar. I might also add that because of the relatively large surplus of large farms, capitalizing the net income of the whole farm results in relatively high valuations. This is

because the gains from increases in efficiency of operation due to large size are capitalized and show themselves in a higher valuation. In practice it will probably be found that, for the average sized farm, the capitalization of total net farm income will give results not far different from capitalizing just the net rent of the landlord. For the Saskatchewan plains the point of equalization of valuation by both methods is somewhere between a 480 to 640 acre farm.

Dr. Hammar has indicated some of the weaknesses of using, as he calls it, the accounting or farm management approach to capitalization of net farm income. I agree with his views. But I would say that if the appraisal of a farm is for loan purposes the appraiser should by all means attempt to set up a farm budget for the particular farm in order to indicate the probable net income in relation to the loan that he is going to recommend. If this system had been followed in the past there would be less grief in the loaning business today. If farm budgets are to be set up by appraisers they will need to have considerable knowledge of farm management accounting. In most cases they should be able to obtain much of the information from the farmer himself, but the appraisers will have to have a good practical knowledge of farm costs. Agricultural Colleges should increase their research by making further regional farm management studies so that the appraiser will have a useful body of information as a check on information supplied by farmers.

There are a few points with respect to the landlord-share method of appraisal that Dr. Hammar has not been able to touch upon that I wish to discuss.

This method implies the typical share rent or cash rental of the region. In Western Canada the share rent varies with the soil type, or rather with the crop history of the district which is closely related to soil type. In some districts one type of share lease is quite predominant; in others there is considerable variation which makes it difficult to say what is typical. For instance, in two areas which we surveyed in Saskatchewan last year, about 90 percent of the leases were of the one-third clear type. In a survey made on the Regina plains in 1926 a little more than half the leases were one-third clear, the balance were nearly all half crop with some variation in the expenses to be met by the landlord. In 1932 another survey was made on the Regina plains but the types of tenure had changed. About three-quarters of the leases were one-third clear and the balance half-crop with considerable variation in landlords share of expenses. In 1934 surveys were made in a loam soil area in which the enumerators classified all the farms into two categories, heavy and light loam farms. In the heavy loam areas 50 contracts were of the one-third clear type, 37 one-quarter clear, 9 half-crop and 10 were variations of all three. In the light loam areas 24 were one-third clear, 23 one-quarter clear and 2 half crop. Many other examples could be cited where it is extremely difficult to say what is typical for the region.

Another point may be worth while mentioning. If long time prices and yields are to be used in the capitalization method, should not long time rental terms be used? In Western Canada the share of crop which goes to the landlord varies directly with the trend of the gross income per acre of wheat. Although it varies directly there is frequently a considerable lag.

Changes in tenure terms may lag 3 or 4 years behind changes in gross income per acre. Is it correct to use present day crop shares which are based on present conditions and apply them to a long time average of yields and prices both of which would be higher than those of the very recent past?

It is usually assumed over a period of years that the landlord always receives his share of the crop. Considering all landlords this is not always the case. In periods of crop failure the landlord may waive his right to a share of a very small crop such as 2 or 3 bushels per acre, or he may make other concessions. Also over a period of years many landlords from time to time fail to receive their full share of the crop due to false returns on the part of the tenant. Because of the waiving of very small shares of the crop and other concessions and false returns on the part of some tenants, there is a constant bias upward in the estimated share going to the landlord when the typical share is applied to the long time average yield. What the bias is we have no way of knowing.

Apparently it is the practice in many regions to charge a cash rental for hay and pasture land in addition to a share of the grain crop. This is not the usual practice in Saskatchewan. I cannot speak with assurance of Alberta and Manitoba. Of all the cases we have investigated in Saskatchewan only rarely does the landlord get any share of wild hay or any cash payment for pasture land. In such circumstances it would seem that, to be typical in Saskatchewan, only under exceptional circumstances would it be valid to include a share of wild hay or a charge for pasture use in the landlord's statement.

Three items of landlord's costs are worthy of mention: taxes, upkeep of real estate and management. The trend of social services has been rising over the years and it is likely that further tax increases will take place in the future. In Saskatchewan land taxes have fallen sharply from the level of 1929, but there are indications that they are rising a little within recent years. Appraisers should be careful to see that in those areas where taxes have been temporarily reduced they do not use present low taxes in a landlord's statement of income based on long time average prices.

The landlord's expenses for upkeep of real estate, such as repairs to buildings, depreciation charges and fencing upkeep are items that have to be carefully considered and in practically all cases are arbitrary figures based on judgment.

Since the landlord-tenant approach to income capitalization attempts to obtain the net rental to a landlord, management costs of the investment must be considered. This charge could be estimated on the basis of the charge farm management companies make for looking after the interests of the landlord without any direct supervision of the tenant.

I have spent some time by going into the landlord-tenant share method of valuation to indicate in some degree some of the difficulties of estimating the receipts and expenses of the landlord. Too many people think that this method of appraisal is relatively easy and necessarily accurate because such a small number of things have to be estimated. As a matter of fact, everything has to be estimated as in any other method of appraisal. The argument has been used that less estimating has to be done than for the accounting or net **total** farm income method. But for the average sized farm the landlord's estimated expense items are as large a proportion of his

receipts as the estimated total farm expenses are of total farm receipts. This is not an argument for using the accounting method of capitalizing net farm income but rather to indicate the dangers of assuming the landlord-tenant method is good because it has relatively few items to be estimated.

Dr. Hammar has taken up the matter of future increments and decrements in land value or, in other words, the future prospects of the purchasing power of land values in terms of farm prices. I would agree with him that over a long period of years land prices in relation to farm prices are likely to show a decline but as he points out as this is a trend situation which it is hardly practical to take into consideration in an appraisal. At the same time it suggests that an additional degree of conservation may be necessary in making satisfactory appraisals for the future.

He has also touched on the question of decreases in productivity of land due to losses in fertility and erosion. This is undoubtedly an important factor in appraisal in Western Canada. The sandy loam and loam soils of the short grass plains have been gradually declining in productivity so that it is unlikely, given similar weather conditions, that the wheat yields of these soils will be as good in the next twenty years as they have been for the past twenty years. In land classification procedure in Saskatchewan we have tried to take account of this fact by discounting a little the past long time wheat yields of these soils. For example, Hatton fine sandy loam quarter sections if they are practically all arable would normally just go into land class III but the average long time wheat yield has been reduced just enough to place them in land class II. This soil type is now low in fibre, subject to drifting and future expectations of yield are not very promising.

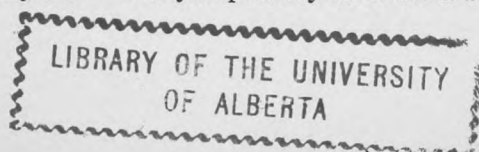
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## Discussion of DR. CONRAD H. HAMMAR'S PAPER ON "THE SYNTHESIS OF MATERIALS FOR APPRAISING"

By DR. H. C. GRANT

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I know that every member of the American Society of Farm Managers and Rural Appraisers and our Appraisal Institute of Canada is overcome with the one desire to obtain a copy of Dr. Hammar's paper and pore over it like a guide book to the World's Fair. I have read the original and final copies at least six times, and each perusal yields renewed and extended appreciations of the exhaustive and stimulating treatment he has given to the subject. Therefore in one sense I do not like his paper at all. It leaves those of us chosen to discuss the subject with a feeling of utter futility. As a matter of fact, I had considered, over the weekend, sending Mr. Herzer a note somewhat like the one which a certain Bishop received from the village Vicar. It read:—"My Lord—I regret to inform you of the death of my wife. Can you possibly send me a substitute for the weekend?"



I suspect that one of the reasons, if not the only reason, why you have three Professors on your program today is that you really have a profound respect for scientific methods and logical reasoning but just can't understand how these lead us into differences of viewpoints and conclusions. At any rate I have never met a group of professional men who are as anxious as you are to have your theories and methods openly criticized by outsiders. Some of the public accept everything a Professor says, particularly if it is veiled in scientific terminology, illustrated by complicated charts and clinched by coefficients of correlation. Too many of us want others to do our thinking or supply us with tools to measure every conceivable phenomenon. On the other hand there are those who throw overboard all scientific theories based on orderly knowledge. They are the bush flyers who have only their own safety to think about, fly by the seat of their pants and regard all complicated directional guides as luxurious aids to navigation.

In between these two extremes are the majority of your profession, who consider that you are engaged in a business of public trust and that you are from day to day making decisions which influence agricultural policy in particular and our national economy in general. Thus conceived, your business is our business, and our researches and theories become working tools in your hands.

Thus, co-ordination of purposes, and aims between professional appraisers, University men, executives, and lawmakers is as equally important as is the synthesis of materials for appraisal with which Dr. Hammar has dealt. Speaking, if I may, for the agricultural economist I should like to suggest what our contribution to your profession might be. First and foremost is the attitude of mind which we can inculcate in our students; many of whom have joined your ranks in recent years. This attitude is two-fold. Firstly, that knowledge is not static. What we know and understand today is the truth as far as it is in our power to reveal it, but it is only the foundation of tomorrow. The mind is not a citadel safeguarding ancient privileges and dogmas. Secondly, we try to impress upon our students that the study of economics is primarily a discipline; that no fact is properly understood without the evaluation of every other relevant fact. In this latter connection I, as a teacher of agricultural economics particularly value the method of determining basic value which has become associated with your organization. It is a "definite written detailed opinion" which embraces every proper fact that supports land value.

Our second contribution is the organization and analysis of factual data. Here we sometimes get into difficulty. Results of research studies of various kinds, such as those of cost of production, scales of living, land classifications, conducted as objectively as we know how and with all the qualifications of time and place are sometimes used by interested groups to support their particular theories, claims, and policies. We can do little to escape the social or public policy implications of our researches and perhaps should not wish to do so. There are too few organizations like yours and too few men vested with authority like Mr. Justice Davis, Chairman of the Board of Review, Saskatchewan, under the Farmers' Creditor's Arrangement Act who are willing to listen to or plod through the expositions of the economist.



Professor Hammar's major thesis is, as I see it, that land as a complex cannot be measured. If you accept this premise, as I do you must also support the differential system. Thus safeguarded, I think you can depend upon the agricultural economist to pursue his investigations into land-use, and make land classifications which will be helpful to your profession. You will have to be patient with us as we explore the implications of no rent land, variations in lease shares, and the effects of dynamic factors particularly in the field of demand.

It has been suggested that knowledge of soils can be achieved only the hard way, and the examinations of the American Society of Farm Managers and Rural Appraisers and the Appraisal Institute of Canada should continue to make it tough. My experience as a member of the Examining Committee in Western Canada is that the candidates do most of their floundering in the theory of appraisal. You will recall Antaeus whom Hercules defeated by lifting from off the soil, a soil map is the only shield and buckler of many appraisers. They become weaker and weaker as they struggle in the rarified air of economic theory. Yesterday's deliberations have convinced me, however, that you have men capable of building on principles which will do credit to any profession.

The uninitiated, particularly lawyers, who have a faculty of getting attached to anything of value, do not seem to be able to distinguish between institutional values and economic rent or basic value. One of your difficulties has been that you have had to advance the concepts and practices of basic value in a period when values of all sorts were established not only by courts but by legislatures. This may still be the case if Governments consider Federal Mortgage Banks as philanthropic institutions. That you have made any progress at all under these circumstances is remarkable.

Assessed value is another kind of value which has implication to your profession. Equity of assessment as between tax payers, combined with maintaining a high degree of stability of tax revenue, is the goal of the assessor. The larger proportion of local government costs is fixed and under these circumstances broadly standardized and easily calculated appraisal practices are most favored. Adjustments up or down as compared with neighboring farms are usually avoided for political rather than economic reasons.

An improvement in rural assessments is to be desired and long overdue. In this connection, I would add to the words of caution stated in Dr. Hammar's paper. The desire for standardization and uniformity, if achieved by elaborate calculations and investigation of various factors, may lead to a spurious accuracy. Weighting involves human judgments which may err. The acceptance of a maximum "norm" based on average wheat yields disregards coefficients of variability and does not reckon with the unknown as far as the demand for farm products is concerned, what Dean Hudelson has called "the dynamic factors".

I would not be so concerned over recent assessment tendencies in Western Canada if I could be assured of two things. First, that they are to be considered only as assessment values; and second, that the system will be flexible enough to adjust itself to changing conditions in economic and social factors. If on the other hand, the system is one of classification

as a basis for evaluation no one will dispute its validity. As Professor Hammar says it is the mixing of processes which is unsound.

My final thought on this matter has to do with the professional land appraiser as distinguished from the loan inspector or the rural assessor. As a profession, land appraising must comprise a body of theory and practice entirely divorced from the individuals or agencies which make use of the appraisers' skills and judgments. One of the difficulties is that appraisers are just emerging from the hired man stage. Many appraisals and appraisal forms today are mongrels; a cross between the bulldog at Head Office and the retriever of the American Society and the Appraisal Institute. But promiscuous crossing without careful selection of pure lines will not produce hybrid vigor as we now know it. Your organizations will no doubt continue to impose strong disciplines of ethics and practice. As a tyro amongst the professions your most pressing need is the building up of a body of correct principles from a sound basis in fact. Nothing which I have read in recent years is more helpful for this than Dr. Hammar's paper. Do not mistake the purposes of economic theory: This is to explain, not to justify. Pure economics, like any true science recognizes neither right nor wrong, except in the sense of correctness.

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## Farm Management in Relation to Rural Appraisal

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The topic "Farm Management in Relation to Rural Appraisal" suggests at least two problems: (1) What has farm management to offer the rural appraiser in order to make him more efficient and (2) what influence does the management of the land have upon its value?

The first question might be approached from the standpoint of how good an appraiser a man can be if he does not have a good understanding of farm management. In the summer of 1933 such large numbers of debt-distressed farmers in the United States were applying for Federal Land Bank loans that the Farm Credit Administration found it necessary to increase their appraisal force at the peak of the loan period from 208 members, who were tried and experienced, to a force of approximately 5,000, who the Administration hoped would qualify as appraisers. Naturally, a lot of complaint was made of appraisals made throughout the country. I had the good fortune to come in direct contact with many of the problems which arose. As a check on the performance of appraisers, a group of some 30 men, who were trained primarily in farm management, were assigned the task of making a survey for a short period of time throughout the country as a spot check on the appraisals which were being made. This check was made after the revised Farm Credit Act of 1933 had been in operation for several months. When this group of 30 men were brought into conference, they were asked what the trend was in the valuation being placed on farm property. They all replied

that the trend was upward; but, when they were asked whether or not the trend was a safe one, their answers varied from strong negative answers to equally strong positive answers. The question was broken down, and the men were asked if the upward trend in appraisals on poor land was desirable. They were unanimous in saying that it was undesirable. They agreed, however, that an upward trend in appraisals was desirable on the best grade of land, but they gave varied answers for medium grades of land. A great deal of discussion on this trend in land appraisal might be summed up in the statement that many novices failed to recognize the fact that the land which would produce 20 bushels of corn an acre was not worth half as much as land which would produce 40 bushels although most of them had been trained to identify soil types and were well acquainted with agriculture. Too frequently, their knowledge of costs and profits in agriculture was limited. Investigations into specific problems as they arose in different parts of the country indicated quite clearly that many of the men were lacking more in their understanding of farm management than in their understanding of soils. In many areas the valuation of the land required more emphasis on the costs of operating the land, on the relative net income from it, and on a clear knowledge of a safe long-time system of farming for the particular area in question.

Without prolonging the discussion of the problem, "What has farm management to offer the rural appraiser," the following points may be included: (1) a knowledge of types of farming over wide areas, even beyond the area in which the appraiser is expected to carry on appraisal practices, so that he may know something about competitive areas and about conditions of production in different areas; (2) a knowledge of the relative economy of systems of farming and of crop and livestock combinations adapted to certain soils, market outlets, and the control of weeds and insects; (3) a knowledge of the relative economy of different types of operation pertaining to size and shape of farm, types of power, and types of buildings and equipment; and (4) a knowledge of the effect of location on transportation, outside employment, and community factors of both social and economic significance. A knowledge of these conditions is essential because they affect the share of the farm income which can be assigned to land. Still further knowledge pertaining to farm management, however, should improve the quality of appraisal for all credit agencies over that of recent years.

Let us now turn to our second question, "What influence does the management of the land have upon its value." The initial approach to scientific farm appraisal has been from the standpoint of identifying soil types and their relative inherent productivity. This approach is desirable because the inherent qualities of the soil are the very foundation of our agriculture. Although we must recognize that we are already on the verge of needing to discriminate more closely between soil types in certain areas from the standpoint of their relative continued productivity, we must also consider what weight is to be given to differences in management of land in the same community. In the corn-belt, farms which have the same soil type and which originally possessed the same inherent qualities and productivity frequently produce yields which are twice as high on some farms as on others. This situation is due to two sets of conditions:

(1) the current management of the land and (2) the way in which the land has been handled over the past half century or longer. Both of these conditions, however, are due primarily to farm management factors which affect the land value. The question is "How shall we evaluate such conditions from the standpoint of the appraisal of the property?"

In discussing this subject before a group representing such varied farming interests and conditions, it is well to recognize the fact that land values in different areas are bound to vary greatly due to the state of the agricultural development in the particular area under consideration. Historically, some areas of the country reached maturity many years ago, and a deterioration of resources has set in. Others have just recently come to maturity and are now facing some of the problems which a farmer must solve in order to conserve his soil resources. Still other areas, perhaps, are not fully developed with reference to drainage and other corrective measures which will help to increase the productivity and value of the land. In some areas, on the other hand, the land has been misjudged by farmers, and the type of farming which has been established never was suited to the physical conditions of the land from the standpoint of its continued productivity. This variety of conditions means that the problem of land appraisal extends far beyond an appraisal of the current productivity and net income of the land. This brief picture of the varied conditions which appraisers must meet in different parts of a large region merely indicates how important it is that they understand the type of farming with which they are dealing and the stage of development of the agriculture of the region. The problems which have plagued the appraiser under any one of the four sets of conditions just enumerated are sufficient to furnish the basis of a prolonged discussion.

Let us, however, return to conditions in a well-established agricultural region from the standpoint of a type of farming which has long persisted in the area. Previously, we have mentioned the wide range in the productivity of land where the land had the same original natural fertility, where the farmers have access to the same markets, where weather conditions are similar, and where the same diseases and insects influence production. If we assume, therefore, a 100 percent spread in yield under these conditions, something far beyond an identification of the soil type needs to be considered in placing a valuation on the land itself. The man whom we recognize as the efficient operator because he has the ability to make the land produce and yield a good net return currently from his crop and livestock production may possibly be a further exploiter of the land he is operating. No argument can be raised against the fact that two-fold yields are removing fertility from the soil twice as rapidly as are one-fold yields. Therefore, in addition to discerning the influence of management on the current productivity of the land, the appraiser's problem is further increased by the necessity of being able to discern the degree of exploitation which a particular system of farming is bringing to bear upon the land. The illustration may be carried still further by saying that 50 years of exploitative farming on certain soil types not only make them incapable of producing more than half as great a yield as may be secured on similar land which has been wisely handled, but also, according to our agronomists, make them incapable of producing on a par with their original fertility even under the wisest conservation

program and rebuilding practices.

A return to this 100-percent spread in yields on land of the same original type leads to still another problem. This problem is how much of the difference may be ascribed to the variations in the way in which the land is being handled currently. Unfortunately for our farms which are in the hands of efficient operators, the influence of prolonged exploitation has been hidden by the improvement in varieties of crops, methods of controlling insect and disease damage, and better tillage. We have all seen illustrations of a farm which produced widely varying results in the hands of different operators. Such an example shows that land of the same type, at the present time, has a wide range in its capacity to produce because of the way it is being handled currently. Hence, we have superimposed differences in results due to the varying abilities of different operators upon the inherent variations in soils and the way they have been handled for a half century. What I am stressing is the growing problem of discerning the differences between the capability of the soil and the capability of the present operator. The purpose of this discussion is **not** to build up insurmountable problems which the successful land appraiser must meet.

Studies of farm earnings over the past 25 years for instance show that earnings between the better and poorer farms are gradually becoming greater in old established farming regions where some deterioration of soil resources has occurred. On soil which receives little or no care, the deterioration takes place at an accelerated rate; as the deterioration becomes greater, the restoration of the soil to its original fertility becomes more difficult, if not impossible. On the other hand, the best-managed land developed through the wise use of fertilizers, the best varieties of crops, the best methods of tillage, and improved cropping and livestock systems is producing even beyond its original powers.

In preliminary studies of more than 100 farms which are subject to serious erosion, the soil was carefully graded from 1 to 10, with practically all of the soil falling within four adjoining grades. One might expect some definite correlation between net income per acre and the grade of the soil. Although a considerable number of the men who own these farms have adopted erosion control and soil conservation programs, data at the end of four years show no definite correlation on the individual farms between net receipts per acre and soil grade. One assumption is that the lower-grade soils have responded relatively more to definite conservation practices and tend to close the gap between the relative productive powers of different soil types. This assumption may conceivably be an illustration of a type of management factor which may need to be considered in land appraisal in those areas affected by technical and management developments which become general practice. Farmers in the conservation service agree that part of their profit is represented in the soil which has been made more productive for a period of years to come. Thus, varying degrees of management are responsible for complicating the problem of farm-land appraisal.

In order to become more specific, let us assume that an appraiser is going out in a community to appraise a farm. How shall he use a comprehensive knowledge of farm management in making a better appraisal? I presume that effort has been given to courses in rural appraisal



in our college instruction only within the past seven or eight years. I also presume that all of these courses are placing considerable emphasis upon what is commonly termed typical management. In other words, when a man approaches a farm to appraise it, he should try to detach his appraisal of the farm from the operation shown by the present occupant because the appraiser should recognize that the present occupant may pass out of the picture at any time and that another operator will then replace him. The question is "What kind of a man will replace him in the management of that farm?" We have already suggested that typical management has been accepted as a standard. Doubtless, such a practice would avoid much of the old error of lending on the man rather than on the land. Most creditors have had far too much experience in lending on the basis of the man instead of on the land, and these creditors are ready to accept typical management as a forward step in safer land appraisal. Perhaps, however, we should begin to look beyond mere typical management—meaning the prevailing type of management found in the community—and should try to discern variations in the degree of management skill found in different areas. In our best land areas where all of the land is in use, perhaps we can expect that an operator of a farm may be replaced by a man capable of better-than-typical management partly because of the competition to rent and also to buy land. Perhaps we ought to refer to the grade of management we can expect to put on the land in the future, not in terms of either typical or average management but in the terms of the **expected** type of management we are apt to secure under changing economic conditions which are taking place in the community. In the last few years emphasis on the agricultural programs in our country has done much to educate the rank and file of farmers to follow better practices of soil conservation and soil building. In our better corn-belt areas, then, we may expect that the tenants who are successful in securing farms to rent under the competitive conditions now existing are men who are above the average of tenants now on farms. Professional farm management for the absentee owner and the successful competition of the better farmers to enlarge the areas they operate help to eliminate the less efficient farmers. The tendency toward large farms lessened employment opportunities in cities, and the pressure of young men wanting to find a foothold on the land is raising the competition to secure farms. The grade of farmers in good land areas may improve through the course of natural selection if the process must be that painful. Possibly we can place a premium on the management which we can secure under these conditions. The **expected** degree of skill in management may be somewhat above the prevailing or typical management in the better soil areas.

Without dealing with intermediate conditions, let us take the other extreme and assume that the farm to be appraised is near the margin and is not yielding a very large return, but it is still in cultivation. Even though the operator is willing and anxious to do a good job of farming, his equipment gradually deteriorates if he is too far out on the margin. In spite of what is known about improved farming practices, we may question how much improvement, if any, such a man can make in operating the farm more efficiently from the standpoint of creating a larger return from it. Under such conditions, we probably can expect no

more than average operating efficiency. In fact, the grade of farming in the poorest areas may deteriorate at the same time that the land is deteriorating in productivity.

Under which set of conditions is the creditor most willing to lend money and under which set of conditions will he lend most nearly the full appraised value of the property? It may be worth-while to recall that some years ago a number of creditor interests in the United States made a study of their combined experience in farm lending. The result was a map locating trouble loans with red dots. I had some contact with various creditor agencies about that time; and in no less than a half dozen of their central offices, the same map was brought out and discussed. Concentrations of red dots here and there over the country pointed to the trouble spots. We would say, no doubt, that some of them were in communities where agriculture was definitely on the down-grade and that others occurred in areas where the agricultural possibilities had been misjudged. The point which I wish to stress is that we cannot expect the incoming farmer to be above the average in ability as an operator in these serious trouble spots and that the typical management of the future may be below the present typical management as the equipment resources of farmers become more depleted and as the land continues to deteriorate. In fact, such land in the hands of a poor manager may become worthless when the costs of redemption are considered, but most appraisers are slow to give enough weight to this fact. Farmers also give too little heed to the differences between a farm that is capable of being developed or improved in value and one which is now a good going concern. Two farms, one merely making operating costs for a few years and one capable of good immediate net returns, have tremendous differences in debt-paying capacities.

Furthermore, many of the serious trouble spots are in areas where the income is not at all stabilized due to the risk arising from uncertain seasonal conditions. In periods of relatively good cropping conditions in such areas, the urge on the part of farmers to gain security has led many of them to buy land in areas where their limited resources will permit them to get a foothold on land which they own. This procedure tends to set the price as high as it should be in the year of relatively good production. If we assume that land is appraised under these conditions, we may have a situation arising with 2, 3, or 4 years of low production due to seasonal conditions. Yet over the average of a long period of years, we may assume that the original valuation was not too high. However, if land is appraised at its long-time value, the purchaser or the creditor who loans the money for its purchase may find himself with property which will be unproductive for 3 or 4 years. The value of this property may be less than a long-time value because interest and taxes might easily accumulate on low-valued land to the point of equaling 25 percent of the long-time value of the property. At the end of a drought period, the delinquencies on the property plus its original valuation might amount to 125 percent of its long-time value. In other words, when we come to low-valued land, is it a safe proposition, from an appraisal point of view, to appraise it fully on its long-time valuation or should some allowance be made for the risk involved through the uncertainty of a few years of low income which occur from time to time? A new developing country is always optimistic.

The corn belt has been in that situation until recent years when we have found evidences of very definite lowered production due to exploitative farming. After we have passed this period of optimism, perhaps we will need to take a more conservative view of the valuation of land, especially in those areas where the risk elements which grow out of weather and other conditions make a less regular income than is found in the more stable regions. In the process of capitalizing on expected earnings, the appraiser may make allowances for irregular income by using a higher rate of capitalization. However, he must recognize and make allowance for risk factors.

Another farm management condition which is pertinent to land appraisal is the rapid transition from horse farming to power farming which has taken place during the past 25 years. This change raises the question as to its effect on the costs of operation and on the valuation of land. In the heart of the corn belt, the hours of man labor in the production of corn have dropped from 18½ hours an acre in 1913—1915 to 8½ hours an acre in 1936—1938; in the production of wheat, from 19.4 hours an acre in the period 1914—1916 to 3.7 hours an acre in the period 1936—1938; and in the production of soybeans, from 13.4 hours an acre in 1922—1924 to 4 hours an acre in 1936—1938. The change in hours of horse labor has been even more pronounced. The hours of horse labor have dropped from 43.6 hours an acre to 9.3 hours an acre for corn, from 34.6 hours an acre to 2.1 hours an acre for wheat, and from 29.1 hours an acre to 1.5 hours an acre for soybeans. On the other hand, no tractor power was used in the period 1914—1916 for the three crops, but for the period 1936—1938 tractor power was used 3.6 hours for corn, 2 hours for wheat, and 2.4 hours for soybeans.

What influence have these changes in the use of labor and power had upon crop costs? The operating expenses, which include all costs other than taxes and interest on the investment in land, have been substantially reduced in the production of all farm crops with the possible exception of corn. When operating expenses in crop production today are compared with those of 25 years ago (before the advent of the tractor and large-sized machinery units), the operating expenses were: corn, \$10.92 an acre in 1913 and \$10.99 an acre in 1936; wheat, \$19.14 an acre in 1914 and \$7.27 an acre in 1936; soybeans, \$16.45 an acre in 1922 and \$10.83 an acre in 1937. Thus, there has been a substantial reduction in the acre-cost of those crops where the greatest change in technique has occurred—for example, for small-grain crops we have passed to tractor equipment for ground preparation and seeding and to the combine for harvesting. The data presented were secured prior to the general use of hybrid corn which has materially reduced the cost per bushel of corn produced with no material change in the operating cost per acre. Hence operating costs on the unit basis have been materially reduced.

How do such changes affect land values? The approach might consider the income which the landlord receives for the use of the land in those areas where there is sufficient tendency to justify the use of the landlord's income as a basis for computing the value of land. He is not affected by changes in operating costs except as they indirectly affect his share of the income and his proportion of farm expenses. So far, we have not made many farm-lease changes because of recent changes in methods

of operation and in costs of production. However, changes in the relative costs of the landowner and the tenant might lead to farm-lease changes. The tenant's share of the net income has tended to increase because operating costs an acre have been lower, but we also need to consider the fact that in recent years agriculture has been through a period that emphasizes the growing share that cash costs are of total farm operating costs. This increase in cash costs, however, is of more concern to the tenant than to the owner. In 1913-1915 the direct cash outlay in producing corn was 14.1 percent, and the cash reserve for depreciation was 4.3 percent of the total costs of producing corn. These two costs amount to a total of 18.4 percent. However in 1935-1937 the direct cash outlay in producing corn had risen to 28.3 percent, and the cash reserve for depreciation had increased to 8 percent. These two costs amount to a total of 36.3 percent. Formerly, when the farmer produced his own horses and feed, power costs moved up and down with the price level. Now, with these items replaced by the purchase of more machinery, tractors, fuel, and oil, the farm operator is less able to weather economic storms when farm products sell at relatively lower prices than do the goods and services which farmers buy. If prices could be more nearly stabilized, some of the apparent reduction in costs would have a more direct influence on land values.

A further appraisal factor which has a close relationship to the reduced costs of operating farms is that, even though stabilized conditions may give the landlord a larger proportion of the gross income, the landowner—especially in areas of declining productivity, may require a part or all of his increased income to build up or maintain the productivity of the land. The problem of maintenance of soil may then become a counteracting influence to the reduction in other costs of operation. As long as the frontier offered an outlet to prospective farmers, the emphasis in American agriculture has been to develop on the extensive margin with too little regard for the conservation of the soil or for the study of methods of intensifying farming operations on good land in order to improve the quality of farming and the net income.

Up to this point, the emphasis on differences in productivity of farms has been attributed to differences in crop yields. However, differences in crop yields are only a part of the influence on net farm earnings. All who are familiar with farm management work will not overlook the importance of the combination of crops, the amount of livestock, the efficiency with which the livestock utilizes feed, the prices received for farm products, and the labor, power and machinery efficiency. All of these factors have a part in determining the success of farms. From the standpoint of the individual's ability to pay for land, they are important. Here, however, the problem continually arises of which of the factors to take into consideration in evaluating land. In a study of over 600 farms on which careful records were kept in 1939, the characteristic variations in earnings were found. The one-fifth of the farms with the highest earnings made more than 7 percent higher returns on the total farm investments than did the one-fifth of the farms with the lowest earnings. Even on farms operated under lease, the difference in the returns to the landlord alone amounted to more than 4 percent of the total farm investment. The one-fifth of the farms with the highest earnings averaged within two acres of the same size of the one-fifth of the farms with the lowest earnings. Likewise,

the percent of tillable land did not differ appreciably. These differences in earnings of farms on similar types of soil and subject to similar market and weather conditions are not unusual. A study of 57 identical farms for a period of 10 years shows that the best one-third of the farms made an average annual income of \$1,786 a year more than did the poorest one-third of the farms. This difference of \$17,860 a farm over a 10-year period, which was due largely to farm management over a long period of time or to current operations, explains why some men are able to buy and pay for farms and why others fail in the attempt or remain as tenants. Consideration of these data, however, should not overlook the fact that no farmer who buys a farm with a small equity can survive some of the economic conditions through which agriculture has passed in recent years. The tenant-purchase program which is in operation in the United States must succeed or fail not on the basis of the appraisal of the land but on the basis of the appraisal of the man, because superior ability is required even under normal conditions for a man to pay off a 100-percent debt on the investment in land and its improvements. These remarks in regard to the variations in earnings on farms operated by different men in the same community and on the same type of land must not be interpreted as having a direct bearing on the appraisal of the land. They are introduced merely to show how important management is in the earnings which can be made from land. The value of land, however, must rest upon the long-time earnings which will be obtained with the kind of management that is to be expected when the land passes into new hands. The man and his management may have much to do with whether or not a particular man is granted a farm loan and his success in repaying it. Superior management, however, has little place in determining the value of a particular farm, but it might have a large part in determining the amount of short time or intermediate credit which will be extended to a particular individual.

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## Appraising Raw Lands in Western Canada

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### What is Meant by Raw Land

In Western Canada, the term "**raw land**" is applied to undeveloped and unimproved lands in their natural state, regardless of the degree of settlement in the area in which they are situated.

The terms "developed" and "improved" are used in a peculiar sense by some appraisers, and they are so used in this paper. The meanings ascribed to them may be defined as follows: The "**development**" of land means the clearing of timber or brush, the removal of stone or rock, the digging of ditches, the breaking of sod and other works involving labour principally, required to render land fit for farming operations. The "**improvement**" of land means the erection of fences, the construction of buildings, the lay-



ing of tile and other works depending on the employment of structural materials, required to make the operation of farm units possible.

One other point should be borne in mind: land which provides the means of carrying on certain farming operations in its natural state and requiring only fencing or structural improvements is not called "Raw Land." For example, a section of land which is suitable for ranging or pasturing cattle in its natural state and which according to established practices in the community would be used typically for such purposes, is referred to as a range section or a pasture section as the case may be, and not as a section of Raw Land.

It follows, therefore, that the term Raw Land, as used in Western Canada is a relative term and implies that development is required to bring the land into typical use. For instance, a prairie section of land which typically would be cultivated for grain-raising, but at present is in native prairie sod, whether the land is lying idle or used for, say, pasturing cattle, would be properly called a section of Raw Land.

In all cases, employment of the conception of typical use by typical operators is involved in determining whether land is Raw Land or not by this definition.

To sum up the preceding paragraphs: Raw land may be defined as land in its natural state which requires "development" to render it fit for typical farming uses by typical operators. In general, the term Raw Land applies to land in its natural state, but not all such land is Raw Land, as some typical farming uses require it to remain in its natural state. Land in its natural state which is not Raw Land is usually timber, range, hay or pasture land. The term Raw Land always envisages a transition from the present natural state through the medium of man's labour in development to a condition conforming to the typical use of such land by a typical operator. This transition may involve the felling of trees to render land suitable for pasture or crop-raising, or the breaking of sod, plowing and cultivation to render it suitable for grain-growing, etc.

### **Occurrence of Raw Lands**

From this definition, it is clear that Raw Land may occur in three general settings, and be classified accordingly as follows:

Class A. Raw Lands situated in unsettled or sparsely-settled areas;

Class B. Raw Lands situated in well-settled areas;

Class C. Raw Lands parts of partially-developed and improved farm units.

This classification and these designations are used throughout this paper, and the appraisal of Raw Lands in each of these Classes will be dealt with in some detail.

### **Appraising Raw Lands**

In Western Canada, large unsettled areas containing Class A Raw Lands still exist. Raw Lands in Classes B and C are likely to occur anywhere in any farming region.

The same general lines are followed in appraising all classes of property, though actually the details and dominant factors may vary considerably from case to case, as these cause differences in value. It will be generally accepted that, regardless of the form in which appraisals are made and reported, the factors which contribute to the value of farm

property may be roughly grouped and listed in three main categories: factors affecting the revenue from the property; factors associated with the location of the property, with all that the term "location" implies in its broadest sense; and factors representing home aspects or uses of the property. While the methods employed in appraising Class A Raw Lands follow the same general lines as those employed with other classes of property, it is clear that owing to their character, the determination of many important factors cannot be based on factual data associated with the lands themselves, but must depend on judgment and comparisons with other lands in respect to such factors.

Before considering the appraisal of different classes of Raw Lands in detail, it may be helpful to consider in retrospect the manner in which settlement took place in the West during the past century, and the effects of certain incidents and movements which took place, on the value of farm lands. Conditions represented in unsettled areas today are analogous in many respects to those which existed in well-settled areas in years gone by. Time will not permit of any but the most sketchy references.

### **Settlement of Western Canada**

At the beginning of the Nineteenth century, virtually the whole of Western Canada was in a virgin state of prairie, park and bush land. This great hinterland was the domain of the trapper, the hunter and the trader until in 1812 and for a few years following, settlers in limited numbers came from across the Atlantic by way of Hudson Bay, the Hayes and Nelson Rivers, and Lake Winnipeg to found a colony on the banks of the Red River in and around the land on which the City of Winnipeg now stands. These settlers were mainly Scottish, though a sprinkling of other nationalities was represented. This immigration had been arranged by Lord Selkirk, a member of the Board of the Hudson's Bay Company, who had purchased an extensive tract of land from the Company for the purpose. The Company also gave its blessing to the undertaking, and the intention was to found other colonies at Hudson's Bay Company's Posts elsewhere if the one at Red River turned out to be a success. Settlers were to be permitted to purchase and obtain title to the lands allocated in each case, provided certain developments and improvements were effected through their own efforts. The granting of these titles marked the first time in Western Canada that small parcels had been privately owned by individuals, who could, of course, dispose of them at will. Adjoining Raw Lands were owned by Lord Selkirk or the Hudson's Bay Company. The settlers farmed their lands, at first encountering serious opposition, both human and climatic as well as in the form of insect pests. Surplus products of the soil over and above the settlers' needs were readily disposed of to the Hudson's Bay Company. The Colony was remote, however, there was little even casual immigration, and moreover the population was small. In the early 1820's, the inhabitants of the Red River Colony numbered less than 400.

Let the appraiser ask himself what effect the coming of these settlers had upon the value of farm lands in the Red River Valley, and what factors he would have taken into consideration in valuing one of these pioneer farms? Also how would he have proceeded to value Raw Lands in this settlement?

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For three or four decades, the extension of the Colony and the increase

in the population proceeded at a very slow pace. The settlement continued to be remote. There was some immigration from the East, mainly French Canadian, who settled on the East side of the Red River and along the Seine River; servants of the Hudson's Bay Company retired from time to time and remained in the Colony; the half-breeds showed a tendency to congregate at Pembina at a point some 60 miles South and about 14 miles west along the Assiniboine River at White Horse Plains, so that they might continue to hunt buffalo; and there was the natural increase in population. In 1855 the population in the Colony was said to be about 6,500, and by the end of the next decade, 10,000.

At the time of Canadian Confederation in 1867, the settlement extended along the banks of the Red River from Lake Winnipeg to the international boundary, along the Seine River, and on the Assiniboine River as far west as Portage la Prairie. The waterways were still the main highways, though wagon trails paralleled the Rivers and connected the more important Hudson's Bay Posts. But the settlement was becoming less remote. Though no railway served the Colony, settlers were pouring into the Western States and railways were being built there—some approaching the Colony.

Farm appraising would follow the same lines as in the early days of the Colony, but now more was known and more accurate valuations were possible. More and more land had passed into private ownership and a greater number of farms changed hands. Seasonal climatic variations would be better known, and many years of experience in farm production in different soils had been gained. The reasons for variations in the value of similar lands in Scottish, French and half-breed settlements would be understood and the relative desirability of different localities as places in which to live would be appreciated. Also the probable range of farm products prices could be more closely gauged. The appraisal problem had become more complex, but time and experience had made a more detailed and accurate solution possible.

#### **Growth Phenomenal After Confederation**

One of the terms of Confederation of Canadian Provinces was the construction of a transcontinental railway. This was actually completed in 1886, but several years before this, connection had been made with Winnipeg by railways from the South, and branch lines were beginning to creep out of this point over the prairies. Settlers began to pour in with this railroad development, and continued till very recent years. Commencing with 1870 and continuing until the 1920's, the surveying of the western prairie, park and bush lands in the fertile belt into townships and sections was pushed forward rapidly, and at times it was a problem to keep the surveys abreast of the large-scale immigration from Eastern Canada, the United States and Europe, which was being promoted. During this period, railroad construction proceeded apace, and, towards the latter end, systems of main highways and market roads took shape. In 60 years, the population of the Prairie Provinces increased nearly a hundred fold from 25,000 in 1871 to 2,354,000 in 1931, and during this period cities, towns and villages sprang up and became established at strategic points throughout the territory.

While the results of this rapid settlement were in the main outstandingly successful, and provided tens of thousands of farmers and their

families with a high standard of living, it was inevitable that mistakes would be made. There was no attempt to concentrate settlement or direction of settlers—they suited themselves—and during the period of greatest expansion, settlement was accomplished with very little guidance or control. Nearly all of the settlers were from other parts of the Continent or from Europe, and had no experience with actual conditions in Western Canada. In most of the western localities, farming had never been attempted before. Technical investigations along agricultural lines were seldom available ahead of settlement, and in most cases no scientific data had been collected. Modern methods of analysing soils and other critical data were unknown until later. As no constructively helpful advice was offered to the intending settler, he just had to help himself and trust to luck. It is surprising and says much for the character of the land that the results were so generally satisfactory.

#### **Mistakes Resulting from Uninformed and Uncontrolled Settlement**

At risk of labouring the subject, and mainly because they do help to clarify the appraisal viewpoint, brief mention will be made of one or two instances where serious mistakes in settlement occurred.

There is an area lying between Riding Mountain and Lake Manitoba in the Province of Manitoba which during the past century has been invaded and abandoned by successive groups of settlers every twenty-five years or so. This area was fairly accessible from the Red River Colony as an old trail to Kinosota House at the Narrows ran through the East end of it along the shore of the Lake. Each successive wave of settlers attempted to grow grain and failed to establish itself in any kind of agriculture except a form of cattle-raising which depended mainly on the free use of wide areas of neighboring pasture lands. Only in recent years has the reason for these failures become known. Successful grain production is impossible throughout this area because the ground water is impregnated with salts washed out of the shales in the heights of the Riding Mountain to the West, these being carried in solution through the soil by the ground water on its way to Lake Manitoba. Long beaches of former glacial Lake Agassiz traverse the slope of this terrain so frequently that no creeks or water courses are found in the area: consequently the water finds its way to the Lake through the soil. The later failures in settlement could have been avoided had there been any scientific investigation along agricultural lines beforehand, but the disastrous experience of previous grain-minded settlers was not enough in itself. History teaches that people will not learn from history.

It is pertinent to ask how would an appraiser have viewed the value of land in this area at a time when settlers were moving into the district and opening it up for grain farming?

There are some areas in Western Canada where a form of farming producing a bare subsistence for the operator has been followed ever since settlement took place in the locality many years ago. The soils and climate of these areas were not quite bad enough to make the settlers move out, but not favourable enough to provide them with a good living. Whole lives have been lived in such conditions when better lands in other areas could have been had by moving to them. Farming methods may be partly to blame in some instances, and in others a remedy might lie in operating larger farm units. Many people once settled are apt to cling

tenaciously to the farms they know regardless of hardships, and this is perhaps more noticeable in the pioneer stage of a new country.

In appraising such areas, however, the appraiser has to take what he finds. In all probability larger farm units would change subsistence farming to a more liberal living, but for the time being the pattern is fixed, and this determines the typical farmer and the viewpoint of the appraiser.

In some areas, disaster has been encountered in more recent years. One of these—a short-grass and good ranching country was penetrated by a few grain-minded settlers in 1907. Actually it was a semi-arid area, but for two years running, rains during the growing season were plentiful and large unit wheat yields of good quality were harvested. The news spread quickly and other settlers stampeded into the area thinking they had stumbled upon a second Eden. Though the next five seasons were extremely dry with negligible grain crops harvested, settlers continued to pour in. By this time a large area was under cultivation and in 1915 and 1916 good rains were again experienced with resulting yields of 40 bushels of wheat or more per acre.

Let us pause here to ask how the appraiser would have appraised land in this area in the spring of 1917 in view of past experience in the area and particularly of the two immediately preceding 40 bushel crops?

Here normal weather conditions returned. During the period 1917 to 1932, two fair crops only were harvested, two were frozen and the one good crop was completely hailed out—all the rest were failures. Then the Provincial Government stepped in and moved those settlers who were willing, to other more fertile areas, so that the whole of this area might revert to grass, which might take from 15 to 20 years.

This subsequent hard experience has given the appraiser much more to go on than he had in 1917, and the appraisal of land in this area would present no exceptional difficulty today. This case is particularly interesting as it illustrates some points in the Raw Land appraisal problem. Actually, according to our definition, land in this area was treated as Class A Raw Land, when it should have been identified and used as range land.

#### **Past Farming Settlement Generally Indicative:**

In appraising Raw Lands in Western Canada today, we have the past history of many areas in the region to guide us. Successful settlements as well as those which proved mistakes provide the appraiser with valuable information. This is particularly the case where examples are afforded by areas in the vicinity of regions at present unsettled. Comparisons are extremely helpful in making Raw Land appraisals and frequently they furnish the main approach. Past successes and failures both furnish the appraiser with valuable information. Sometimes these failures were due to the character, quality and location of the land itself, but in other cases they were the result of farming methods employed and attempts to use land for wheat-raising for which it was entirely unsuited. At one stage in development, settlers would consider nothing else but wheat-raising, and varied farming practices that might have succeeded in good prairie wheat soils having sufficient rainfall, into arid areas, northern bush land areas and in fact, everywhere. It is too much to expect that such mistakes will not be made again in areas at present unsettled, but with present appraisal methods and modern technique, technical surveys



and reports and farm experience in similar areas all available, there is no reason why the appraiser should err in his judgments and conclusions.

### **Settlement Not Always Intelligent**

A study of settlement in the past shows that frequently this has not been guided by reason. Psychology plays its part in such matters, and settlers quite often crowd into some areas or avoid others for the reason that other intending settlers who have no more expert information about the merits of the land than they have, are doing the same. If there is a rush of settlers to a certain locality, others join and swell the crowd. Even in cases where settlers want to use their best judgment in locating areas in which sufficient time has elapsed to prove the value of the land for farming purposes, there may be difficulty.

An illustration of this is provided by a small area in Southern Alberta lying about midway between the Foothills and the Eastern boundary of the Province. Some years ago farmers started to move into this area and conditions at first were such that the short term experience indicated good possibilities for wheat-growing. Then a year or two of adverse weather conditions followed which cast serious doubts on the merits of the land for wheat-raising, and many of the settlers abandoned the area. Normal weather conditions returned and in recent years, those settlers who stayed have developed farming methods to which the land responds much more beneficially than under the former ones. Also the introduction of new types of farm implements and machinery has helped the situation here. All of these things have combined to change the picture, and present indications favour the development of this as a satisfactory dry farming wheat-raising area.

It is not all plain sailing for the settler wishing to establish himself on good land through the exercise of good judgment in a country largely unsettled or at best in the pioneer stage of farming operations. As the value of farm land is tied into conceptions of typical operation and farming practices, the difficulties of the appraiser in such cases will be appreciated also.

### **The Appraisal of Raw Lands**

These incidents of past experience in settlement in Western Canada have been reviewed briefly as with the much more numerous examples of successful settlement, they do form a background for the appraisal of Raw Lands and particularly of Class A Raw Lands.

It has been pointed out before that extensive areas still largely unsettled or sparsely settled are to be found in Western Canada. In many of these areas, accurate data in detail on climate, soils, etc., have not been compiled, though reconnaissance surveys and technical reports are quite often available. Efforts are being put forth by Governments, often through the universities, to overtake this lack, and in any case, the appraiser has much more to go on now than he had in the past. Some 70 years of experience in farming settlement in Western Canada have supplied valuable information which enables a qualified appraiser familiar with the region to detect similarities and differences which will assist him in his work.

Reference to the administration of the Hudson's Bay Company's farm land estate may be excused for the reason that I am most familiar with it,

and it illustrates a point I wish to make. A good deal of this land lies in partially-settled and unsettled areas. The Prairie Provinces are divided into ten territories with a land inspector responsible in each case. Obviously, these territories are quite extensive. The inspectors are seldom moved from one territory to another except temporarily for special reasons or in emergencies. While there might be advantage in moving inspectors from territory to territory to prevent them from getting into a rut, the requirements of appraising lands in unsettled and partially-settled districts is such that, in my opinion, the benefits of a thorough knowledge of a territory far outweigh any advantage there might be in changing their jurisdictions from time to time. An experienced appraiser may go into a well-settled area with which he is not familiar, and by supplementing his trained observations by information obtained from inhabitants and elsewhere, produce a reliable appraisal of a farm property. Unsettled areas, however, usually afford little or no data on past farming operations, there is no community, and local sources of information are not available; still the appraiser has to arrive at conclusions regarding the utility, capacity and settlement of the land. I recognize that this is open to argument, and that contrary opinions based on good and substantial reasons are held, but until convinced otherwise, I shall hold to my opinion that for the purposes in view, the appraiser is likely to acquire the "feel" of the country better, and to recognize changes as they occur, by continuous experience in and study of the same territory, provided it is a sufficiently extensive one.

Every fact or condition that will throw any light on the problem must be considered. The soil, the vegetation and the topography must be observed. The details of railway and highway systems are readily ascertainable. Trends in settlement may be indicated. Government policies affecting immigration generally or settlement in the area may be important. Economic conditions always have a bearing and national tariffs may play a part. Lease rates if in evidence at all are usually for temporary farming uses, frequently of a "sacrifice" character, and consequently assist the appraiser but little. Taxation and tax trends are important.

The time factor is involved in many of these considerations: that is to say, the period that will elapse before these lands will be occupied and developed. It applies to temporary uses as well as to those which may become typical and more permanent. With Class A Raw Lands, this is a real problem which can only be determined approximately under the most favourable conditions. In appraising, it is considered good practice to work through the general to the specific, but for these lands, many factors can be determined only in a general way—the specific will not be revealed much, if any, before settlement actually takes place. An appraisal of a property is an opinion of the value today of future benefits to be derived through the ownership of the property. The time factor is apparent in this definition. In passing, it may be worth noting that some owners of extensive holdings of Class A Raw Lands require appraised values to be based on the assumption that the lands will be occupied for development and improvement immediately. This meets their requirements in administering their estate, pricing lands for sale, etc., in which operations they have regard to the time factor themselves. There is no objection to appraisals being made to suit particular requirements such as this, pro-

vided the character of values arrived at is clearly indicated in the appraisal reports to guard against mistakes or unintentional misuse.

Perhaps a word should be added regarding the costs of clearing and preparing land for cultivation. These costs should be related to the manner in which the farmer performs these operations and not to those that would apply if a contractor were brought in to do the work, unless that is what is commonly done in the locality, or the employment of special equipment is essential. Exchange labour with other settlers is the method most frequently resorted to. Raw Land in northern bush areas is a case in point. These soils are of the grey wooded variety, which, without fertilizers and special crops in the rotation, are not good producers; consequently it might be argued that the ultimate productive value of the farm, after development and improvement, is such that if contract rates for clearing are employed, little or no residual value will remain. The fact is however, that so far settlers in general have not had their clearing done by contract, and it must be remembered that in addition to productive value, there are locational values and more important still, home values. In any case, these lands do command a price. It so happens that a machine has been invented recently that clears and tears up by the roots even good sized trees, and by its means clearing is done so quickly and cheaply that it seems likely to revolutionize the operation—but that is another matter. The point to note is that in appraising, costs of developments and improvements should be related to the manner in which the farmer accomplishes them.

The foregoing paragraphs apply principally to Class A Raw Lands. As a rule, there will be a great deal more factual data, local details and experience in production, to guide the appraiser in dealing with Classes B and C Raw Lands, though he will still be compelled to use the method of comparisons.

Some of the more important details of the problem have been discussed, but the solution in each case must rest with the appraiser. As in other appraisal fields, no formula can be given which will supply the answer. There is no satisfactory substitute for the appraisal process. Schedules have been prepared, however, in which an attempt has been made to list the main factors which should be considered in appraising the different classes of Raw Land referred to in this paper.

#### **Main Data and Factors to be Considered in Appraising Raw Lands in Unsettled or Sparsely-settled Areas—Class A Raw Lands—Schedule "A"**

The main data and factors which the appraiser should consider are listed in Schedule "A" (Pages 128—130). It should be understood that all items listed will not apply to all cases, and in some instances other factors not included in the list may have to receive consideration.

The list may appear formidable, but if it is to be reasonably comprehensive, it is difficult to see how any of the items could be eliminated. It is doubtful whether any one of the items listed can be considered as new or as not having been included in the general considerations of appraisers of Raw Lands in the past.

It will be appreciated that where Raw Lands are situated in areas devoid of population, the appraiser must depend to a large extent upon his own observations and knowledge of the widely-surrounding region.

This knowledge of the region often develops in the appraiser a species of sixth sense, whereby he perceives similarities and differences which in some cases he might find it hard to describe or explain. Just as a competent rural appraiser in considering some particular soil, draws on his knowledge of and previous experience with all soils, so in appraising a parcel of Raw Land, he draws on his experience with all lands, and particularly with lands in localities of which he has knowledge and which appear to him to exhibit similarities in some essentials, whether these localities be near by or in regions far removed from the land upon which his attention is directed at the time.

It will be observed that insofar as their character will allow, the data and factors in Schedule "A" have been grouped in the three main categories referred to early in this paper, namely: data and factors affecting revenue from the property, location of the property, and home use aspects of the property.

**Example:**

It was stated that in appraising Raw Lands, the matters listed in Schedule "A" should receive consideration. An example to illustrate the method and process might be helpful, but space will permit of doing this in very brief and skeleton form only. All the details and circumstances given are purely hypothetical.

An appraiser is asked to value three quarter-sections of land ( $S\frac{1}{2}$  &  $NW\frac{1}{4}$ ) in the midst of an unsettled area. A map of the territory shows that this land is situated within a mile of an old trail running north and south which connects across the river by ferry with a town of 5000 people some 30 miles south. The nearest railway point lies in a North Easterly direction seven miles distant by road allowances, and is the terminus of a branch line at which there is nothing at present but a ranch headquarters, the nearest market town being Glennie, some miles north along the railway, and actually distant by trail and road allowances 15 miles from the land to be appraised. A river valley 2 to 3 miles wide and 200 ft. deep running in an Easterly and Westerly direction lies some three miles south of this land, rendering access difficult to a railway running South of and parallel to the valley.

A reconnaissance soil survey of this region has been published and the soil map shows this land to be situated in a Hector clay loam area, generally level to undulating but with some hilly spots. The accompanying description states that this soil occurs in semi-arid areas, is good for wheat production, but only fair pasture.

The appraiser has encountered Hector clay loam soil elsewhere in the region, and recently made a detailed appraisal of a farm on this soil, in an adjoining area. Notes made during this farm appraisal indicate actual yields for the past ten years of 14 bushels of No. 1 Nor. wheat per acre per annum, but the farm is well located and he considers the farmer to be a superior operator. Crops were impaired twice by grasshoppers during the past ten years and serious soil drifting once. Rotations in that locality are two crops of wheat to one of fallow, and the owner's rental share is one-third of the crop. Usual farm unit—three quarter-sections.

The appraiser also finds in his library a Government Report of a farm utility survey of another area in the region, in which Hector clay loam soil occurs and in it, its utility is discussed. This report shows the aver-

age annual wheat yield for this soil based on the records of several farms for the past 15 years, as 12.5 bushels per acre, the yields in some years varying widely from this mean. No. 1 Nor. wheat is usually obtained. The average size of a farm unit for wheat in this soil was given as three quarter-sections.

The freight rate for wheat from Glennie to Fort William, Ontario, is 20c per 100lbs., which is equivalent to 12c per bu. Wheat handling charges are 1¾c per bu. The appraiser adopts prices of 85c per bu. for No. 1 Nor. wheat, 83c for No. 2 at Fort William, these being based on a study of past wheat prices.

No soil or productivity ratings are available. The 15-year average wheat yield per crop acre for the Dominion Crop Reporting District in which the land is situated is 8 bushels, but Hector C.L. accounts for less than 10% of the total area, lighter soils predominating. Sanford Evans' yield reports for railway point Glennie only go back 2 years and very little of the tributary Hector clay loam area is in cultivation yet. So none of these sources contribute materially to the appraiser's basic information.

Meteorological reports are sketchy, and show an average precipitation of 13 inches, 5 inches of which are during the growing season from May to August. Indicated recording points are few and far between, however, none being in the vicinity of this land, so this data cannot be definitely counted on.

The appraiser ascertains that the taxes on the S½ of the section are \$15 per quarter-section and \$9 for the NW¼, and that there are no special taxes for schools, drainage, etc. He decides that with settlement, general taxes will increase and school taxes will be added.

During his inspection, the appraiser observes that the geological formation is Lacustrine, the topography of most of the S½ of the section being slightly undulating, with a gentle slope to the south. The northerly 200 acres of the W½, however, are rolling to hilly, too rough for cultivation. He observes that the soil is a good clay loam, neutral in reaction\*, averaging 8 inches in depth on the level portion of the property, and from 3 to 5 inches in the hilly area, lime carbonate occurring immediately below the soil. The subsoil is clay throughout, the level area being free from stone, but in the hilly portion on the tops of hills and ridges, gravelly to cobbly patches occur. The vegetation consists of short grass with a sprinkling of sage brush, which coupled with the position of the lime carbonate confirms the semi-arid character of the locality. The old trail shown on the map is found to be a graded and gravelled highway, evidently the main road for travel north and south for this region. A telephone line follows this trail.

The appraiser learns that settlers have been slowly taking up land in the area lying to the north for the past 18 months, the nearest sparse settlement now being well South of Glennie and some 10 miles away. The settlers are mainly English-speaking Canadians, and the movement of settlers into the area has been appreciable.

A rancher living in the vicinity of the railway terminus has been in this territory for 25 years. He can recall no hail storm touching the level area in which this land is situated, though he remembers several bad hail storms in the hilly area to the north. He is of the opinion that there

\*Neither acid or alkaline.



should be little danger of frosts early or late in the growing season, but mentions hot winds from the south which occur in some summers. He leases the land being appraised, together with adjoining lands for ranching purposes, and pays an annual rental of 5c per acre for it. Altogether he controls by leasing or otherwise for his ranching operations between 5 and 6 townships, but is losing some of his range by reason of settlers moving in to the north. He states that water is difficult to get in this area, the shallowest well that he knows of giving a satisfactory supply being 225 feet deep.

The appraiser ascertains that the freight rate differential between the Hector clay loam farm he recently appraised and the land now being appraised is 1c per bushel, the latter being the greater. He decides that the unit farm size for wheat from this soil should be three quarter-sections of arable land. He estimates the cost of converting the raw into cultivated land at \$5 per acre.

The appraiser considers carefully all the information he has gathered through his own observations and from other sources. He deems the drought hazard, and hazards of soil drifting and grasshoppers to be reflected in the yields from the same soil type already obtained from various sources. He accepts as fact that any extension of the branch line railway will be towards the east and not nearer to this land, as he has been told the survey runs East and the topography supports this. He concludes from this that when established the nearest market town will probably be at least seven miles away by road somewhere in the vicinity of the present terminus. This will have a bearing on the type of farmer who is likely to settle on this land, as the more aggressive and able operators prefer to acquire farms nearer to the railway and market town. Though he is compelled to generalize on the kind of farm operator likely to be representative, he decides on a farmer of fair ability, basing his decision on the type of settlers already moving into the north. This in turn affects the probable yield from the farm, and he sets this for his appraisal at an average of 12 bushels No. 1 Nor, wheat per acre after considering the yields from other farms of similar soils with which he is familiar, as well as those referred to in the Government Farm Utility Survey Report. He decides on a typical wheat rotation in which every third year will be fallow, and a lease rate of one-third crop share to the owner. He considers that another quarter-section of arable land will be needed to make a satisfactory farm unit but decides that there is no reason to doubt that this will be readily obtainable. He decides that the capacity of the grass land will rate at six head of stock for 4 months pasture per quarter-section. He forms the opinion that the settlement taking place in the north will continue to grow and estimates that this land may reasonably be expected to be acquired for settlement and farming operations during the next three years. He recalls that satisfactory homes have been established in areas having similar soils and characteristics to this one. He then determines a unit rate for the arable land by comparison with his previously appraised values for other farms situated elsewhere in Hector clay loam areas, modifying and adjusting them to conform to conditions and location applying to the land being appraised. He does the same with the grass land. He may deem it necessary to check the value so derived for the farm by an appraisal based on the landlord-tenant

relationship, using the data already decided upon, assuming the existence of necessary utility buildings only, and making adjustments for location, community and home aspects. It is understood, of course, that this was done in appraising the Hector clay loam farms used as a basis for comparison in arriving at the value of this farm. He finally arrives at the basic value of \$3100 for the three quarter-sections, the unit rates conforming with this being \$10 per acre for the arable and \$1.50 per acre for the grass land.

The descriptions and details in the foregoing example are sketchy and incomplete, but it is hoped that sufficient has been included to indicate the appraisal method and process applied to Class A Raw Lands. The details described are not arranged in any proper order or sequence as, for instance, they should appear in an appraisal report of a parcel of Class A Raw Land.

\* \* \*

### **Appraising Classes B & C Raw Lands**

There is no intention of making an exhaustive presentation of appraising Classes B and C Raw Lands, but the connection between all three Classes is obvious, and for the sake of completeness, sufficient should be said to indicate their treatment in appraising. To cover them fully would be to review the whole appraisal process, and that is beyond the scope of this paper. It was necessary to go into some detail in discussing the appraisal of Class A Raw Lands, but in dealing with Classes B and C, methods and processes employed in appraising farm lands generally in settled communities will be taken for granted, and only those features discussed which require special consideration in view of the particular problems presented by Class B and Class C Raw Lands.

It is accepted, then, without further reference that the appraiser has to inquire into, gather information about, observe and determine to his own satisfaction, the characteristics of the climate, the soil, topography and character of the land, the location and means of access to the property, particulars of community development, the characteristics of the people forming the community and their farming methods, etc. etc.—in fact all the detail that is required in appraising a farm property. It might be observed in passing that a great deal more factual data, experience in production, etc. is generally available than in the cases of Class A Raw Lands.

\* \* \*

### **Data and Factors Requiring Special Consideration in Appraising Raw Lands in Well-Settled Areas—Class B Raw Lands—Schedule "B"**

Data and factors requiring special consideration in appraising Class B Raw Lands are listed in Schedule "B" (Pages 130—1) and are discussed briefly in the following paragraphs.

#### **Use of Land**

In many cases Raw Lands in well-settled areas are used for some farming purpose, though this may be quite out of line with the typical uses of the same kind of land in the locality. In some cases, local farming operations and methods may be undergoing a change. This change may be related to the uses of farm land or to the methods employed in operation, to the character and order of crop rotations, or due to the development of new types of farm machinery or it may be just a case of right

uses being substituted for wrong ones in the locality as a whole. In the latter case, the form of typical operation in the locality is in a state of transition, and this transition may be from what is generally considered a higher farming use to a lower, or vice versa. The farming community that has persisted in trying to produce wheat on land that properly should be used for pasture may ultimately see the light and change to cattle raising.

The appraiser must observe and study local typical farm uses, and where these are in transition, this complicates his work and renders his decision on the typical use of the farm being appraised more difficult. The appraiser must ever be on his guard against thinking in terms of the highest and best farming use instead of the typical use of the land being appraised. The former is a matter of farm management, not appraising.

### **The Time Factor**

The time factor in dealing with Class B Raw Lands is important. When will this land be developed for typical uses and at what rate? Would the typical operator clear and break the whole parcel in one season or only at the rate of 25 acres per annum, and when would he commence? In sizing up this point, the appraiser is not to contemplate major capital expenditures. If the parcel has been held out of typical uses by some unusual circumstance, the demand for such land and the character of the demand will have a bearing on the time factor and particularly on when the land will be acquired for development. If the appraiser is to exercise good judgment on this important point, there can be no substitute for gathering and considering all information which may have a bearing on the matter.

### **Why is This Land Undeveloped?**

The appraiser has to inquire into and ascertain whether there is any particular reason why this parcel has remained undeveloped and unimproved. The reason may lie in some characteristic of the land itself or it may be due to the attitude of some former or present owner. For instance, the parcel may contain excellent arable land, equal in quality to the best in a good farming locality, and yet have been held out of use by some whim or peculiar personal circumstance. On the other hand, some detrimental feature or characteristic of the land itself—perhaps not readily discernible at first glance, is the real reason for its non-development.

### **Farm Unit & Locational Considerations**

Another point which calls for careful consideration by the appraiser is the size and setting of the Raw Land parcel. Might this parcel itself form a farm unit for typical uses or will it combine with adjoining lands to form a farm unit? Is it probable that existing farm units in the vicinity could include this parcel with advantage? The appraiser must come to a conclusion as to whether this parcel would be a valuable addition to farm units in the locality or to some particular farm unit, in view of local conditions and farming operations. He should inquire into and consider whether this parcel has a peculiar value for some use which does not conform to the typical use of similar lands in the locality, or to other uses common to the locality. Is it just a poor piece of land in the midst of surrounding good lands? Are there detrimental features in characteristics or location which make this land undesirable for farming purposes? Does some use of adjoining property adversely affect the value and use of

this land? These and other queries which will occur to a competent appraiser under different circumstances, have to be explored and examined so that a sound conclusion may be reached. The main thing is for the appraiser not to jump to conclusions, but to ascertain and weigh all factors that have a bearing on the use and development of this parcel of Class B Raw Land.

### **Farm Building Situation**

The local situation in regard to farm buildings generally as it affects this parcel of Raw Land must also receive careful attention. The general trend in farming operations, or a change in farming methods, sometimes results in the expansion of farms and the operation of larger units than formerly. If this unit expansion is sufficiently great, it may result in a surplus of farm buildings in the locality, and if additional land is available, in the inclusion of the latter in existing farm units without the construction of further buildings being necessary. In other localities there may be a deficiency in buildings and uniting this Raw Land parcel to an existing farm unit may involve the construction of additional farm building accommodation. Needless to add, the development of the Raw Land parcel by itself as a farm unit will involve the construction of farm buildings.

From the foregoing, however, it will be seen that the building situation in the locality at the time of appraisal has a direct bearing on the value of this Raw Land parcel, and it is the appraiser's duty to determine just what the situation is and how it affects the value of the parcel he is appraising. The local building situation must be studied carefully because where a surplus of farm buildings exists, the value of lands without buildings which may be used with or included in other farm units, tends to be higher than in localities where it would be necessary to extend or erect buildings. In all Class B Raw Land cases this feature should be considered comprehensively in conjunction with other factors having a bearing on the case.

The data and factors just discussed should receive special consideration in appraising Class B Raw Lands. The data and factors with some others definitely associated with them are listed in Schedule "B". In dealing with ordinary or special cases, the appraiser may decide that other items should be added to the list.

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### **Data and Factors Requiring Special Consideration in Appraising Raw Land Parts of Partially-developed-Improved Farm Units—Class C Raw Lands—Schedule "C"**

Data and factors requiring special consideration in appraising Class C Raw Lands are listed in Schedule "C" on Page 131, and are discussed briefly in the following paragraphs. (See also introductory paragraphs on page 124.

Class C Raw Lands may be encountered in sparsely to densely-settled areas, and the settlement may be of recent date or have taken place years ago. In either case the points to be considered lie in much the same categories as those already discussed in connection with Class B Raw Lands.

The Raw Land part of a farm unit in a newly-settled area may be due to the fact that in common with general conditions in the locality, the farm is in course of development, and at the typical rate of development, there has not yet been time enough for the settler to clear, break and

otherwise develop the Raw Land part. The appraiser has to determine, however, whether this is the reason or whether the Raw Land part differs in character or has detrimental features which tend to hold it out of development or affect its utility.

If the farm unit is situated in a well-settled long-established community, there may be good and substantial reasons why the Raw Land part has not been developed, but occasionally sentiment or peculiar reasons are responsible for the situation.

### **Farm Building Situation**

The farm building situation is definitely linked with the improvement of the farm unit as a whole, so cannot be considered with respect to the Raw Land part alone.

### **The Time Factor**

The time factor is important. If development of the Raw Land part is involved, when will it probably take place, and will the development be completed in one operation or by stages extending over a period of years? It will be recognized that even in cases where development seems certain to take place, there will always be an element of speculation or doubt until things contemplated are actually done. Probabilities should be clearly identified as such in the appraisal report.

Many of the points raised in discussing the time factor and the use of land in connection with Class B Raw Lands will also apply to Class C Raw Lands.

The data and factors just discussed should receive special consideration in appraising Class C Raw Lands. These data and factors are listed in Schedule "C". In dealing with ordinary or special cases, the appraiser may find it necessary to add to this list.

### **Concluding Remarks**

This paper is an attempt to describe an approach to the appraisal of Raw Lands rather than to furnish the complete detail of the method and process to be employed. In appraising Raw Lands, many of the factors rest upon probabilities. Unquestionably a clear line should be drawn between probabilities and facts. The appraiser should outline in his report the information, conditions and circumstances that have influenced his decisions, giving his reasons for, and the data and figures used in arriving at his conclusions. The factors involved in appraising Raw Lands are mainly if not wholly speculative, consequently their application in the appraisal is by means of what are commonly known as "Adjustments."

The following Schedules "A", "B" and "C" form a part of the foregoing paper, and deal with Class A, Class B and Class C Raw Lands respectively. These Classes are defined on Page 113 and the Schedules are referred to in preceding pages as follows:

Schedule "A"—Pages 120—124

Schedule "B"—Pages 124—126

Schedule "C"—Pages 126—127

The terms "Raw Land," "Development" and "Improvement" are defined in the opening section of this paper on Pages 112 and 113.



**SCHEDULE "A"—MAIN DATA & FACTORS TO BE CONSIDERED IN  
APPRAISING RAW LANDS IN UNSETTLED OR SPARSELY-  
SETTLED AREAS—CLASS A RAW LANDS**

**I—Data & Factors Indicating Probable Farming Uses and Productivity:**

**Geology:** Parent material weathered in Situ, forming soil. Weathering, the result of sun, wind, rain, snow, heat, cold.

Material transported and weathered.

Media of transportation:

Atmosphere—wind, and rain erosion and deposition—Aeolian soils.

—rain (or snow) causing sheet, string, gully, etc. erosion.

—snow and ice (glaciers)—effects of weight, movement, melting—Drift soils.

—stream and river erosion, and deposits, stream terraces, deltas—Alluvial soils.

—oceans and bodies of fresh water.—Lacustine or sedimentary deposits.

—results of wave action: sorting and transportation of finer particles.

—ground water action.

Rock outcrops.

Occurrence of stone, boulders, etc.

**Climate:** Available records and statistics.

Rainfall occurrence and intensity. Moisture efficiency.

Seasonal temperatures—mean, maximum, minimum.

Growing periods for crops.

Early and late frosts during growing periods.

Weather Cycles.

Violent storms.

Winds damaging to crops.

Hail.

**Soils:** Soil surveys, maps and reports.

Soil inspection and investigation by appraiser:

character, texture and depth of soil;

character and texture of subsoil;

acidity or salinity;

lime carbonate—position in soil;

humus and fibrous content;

subsoil moisture:

ground water table and drainage.

**Vegetation:** Government and University investigations and reports.

Species and growth of grasses, plants, shrubs, etc.

Plants poisonous to cattle, etc.

Alkali-tolerant plants and shrubs.

Acid-tolerant plants and shrubs.

Bush cover—type, size and general characteristics.

**Topography:** Level, undulating, rolling, hilly, depressional.

Direction of general slope.

Water courses, gullies, ravines, streams, rivers, lakes, sloughs, marshes.

Character of water in streams, lakes, etc.—fresh, alkaline, etc.

Elevation:

above sea level;

general, in relation to surrounding territory.

**Use of land:** Indications in Government and University reports on area in which land is situated or on the region. Results of investigations or experience at farm demonstration or experiment stations.

Is this land or adjoining land used for any farming purpose? (grain growing, pasture, etc.)

If so, what has been the experience in use? (grain produced, yields, pasture capacity, etc.)

If so, what rents are paid?

If not, is similar comparable land\* in the region used for any farming purpose?

If so, for what farming uses?

If so, what has experience been in use?

If so, what rents are paid for land in such farming uses?

Are such rents representative and fair, or are they the result of particular or peculiar circumstances?

What taxes and other charges are levied on this land?

Are there any areas in the region, formerly settled and used for farming purposes, which have been abandoned?

If so, what types of farming were followed; were they adapted to the areas in which used?

Has this any bearing on the use or value of the land under consideration for farming purposes?

Has the locality any special advantages or disadvantages?

Has this land any special advantages or disadvantages?

Is this land subject to any hazards such as insects, floods, predatory animals, etc.?

In the appraiser's opinion, for what farming uses is this land or integral parts thereof suitable?

What are estimated costs of developing and improving this land for these suitable farming uses, and basis of estimate?

Has this land any value for other than farming uses? (mineral deposits, timber, townsite or summer resort, purposes, etc.)

Is there any feature, operation or establishment on nearby land that adds to or detracts from the value of this land?

Any other factors applying to the case.

## **II—Data & Factors Indicating Locational Values.**

### **Transportation and Communication:**

Railways serving the area and their location with respect to this land.

Freight rates on farm products and on commodities used by farmers.

Roads serving the area and their location, character and maintenance.  
Pioneer roads and trails.

Ease or difficulty in making fair market roads or trails by settlers themselves.

Name and location of nearest market town, railroad point, etc., and length and character of roads connecting this land to the same.

Location of telephone lines.

Any other means of transportation and communication, or public utilities, within or within range of the area.

\* This refers to developed lands in other localities which in the raw state, would have been comparable to the land under consideration in the opinion of the appraiser.

**Population:**

Nationality, character of population and location in the region.

Types of farming engaged in and farming ability shown by such population.

Social and civil character of such population.

Is the population in wider surrounding territory negligible, sparse or appreciable?

Is there anything to indicate the probable nationality and character of people that might be expected to occupy or use this land or adjoining lands?

Is there anything to indicate when settlement on this or adjoining lands will probably take place?

The appraiser should appreciate, and may wish to comment in his report on the effects of current immigration policies, tariffs, economic conditions, etc., on the demand and use for farming purposes and probable time of settlement of lands in this locality.

**III—Data & Factors Indicating Home Use Values.**

**Home Values in View of the Farming Uses  
For Which This Land is Deemed Suited:**

Has this locality any natural or other advantages which make it attractive as a place to live in?

Has this locality any detrimental features or disadvantages which render it undesirable as a place to live in?

Does this land provide a desirable home site?

\* \* \*

**Supplementary Data on Large-Scale Ownership and Demand for Land:**

Area of lands in locality owned by (i) Government & (ii) Municipality.  
Particulars of any large areas or holdings in the locality:

(a) in single ownership

(b) operated as units for some type of farming.

Is there any demand for land in this locality?

If so, what is the nature of the demand, and for what purposes are lands in demand?

Location and authentic sale prices of land in this locality and region, deemed comparable to this land, and the background of such sales (i.e., whether forced sales, willing-buyer-and-seller sales, tax sales, etc.)

**SCHEDULE "B"—SOME DATA AND FACTORS REQUIRING SPECIAL  
CONSIDERATION IN APPRAISING RAW LANDS IN WELL-  
SETTLED AREAS—CLASS B RAW LANDS**

**Use of Land:**

Main type of farming in the locality.

Typical use of other land in the locality having similar characteristics to this land.

Typical use of this land

Present use of this land

Are adjoining lands developed or undeveloped?

**Why is Land Undeveloped?**

Are there any particular or peculiar circumstances holding this land out of its typical use?

Is there any detrimental feature or characteristic of this land holding it out of its typical use?

Does the use of adjoining property adversely affect the use of this land?

**Farm Unit Considerations:**

Under existing conditions, assuming no artificial restrictions, this land

(i) by itself would form a satisfactory farm unit in typical uses.

(ii) would combine with other lands in the vicinity to form a farm unit in typical uses.

(iii) is needed to extend adjoining farm units.

**Farm Building Situation:**

In the farming locality—

(a) There is a surplus of farm building accommodation

(b) Farm building accommodation is adequate.

(c) There is a deficiency of farm building accommodation.

What effect has this local building situation on this land?

**The Time Factor:**

Is there anything to indicate when development of this land for its typical uses may take place?

Once commenced, what rate of development may be expected?

**Costs of Development:**

What is the estimated cost of developing and improving this land for its typical uses, and basis for this estimate?

Other data and factors may require special consideration in some cases.

Note: This is only a partial list of data and factors requiring consideration in the appraisal of Class B Raw Lands.

**SCHEDULE "C"—SOME DATA & FACTORS REQUIRING SPECIAL  
CONSIDERATION IN APPRAISING RAW LAND PARTS OF  
PARTIALLY DEVELOPED AND IMPROVED FARM  
UNITS—CLASS C RAW LANDS**

Typical use of other land in the locality having similar characteristics to this Raw Land part.

Present use of this part

The relationship of this part to the rest of the farm unit.

The typical use of this part in view of its characteristics and the requirements of the farm unit as a whole.

Are there any particular or peculiar circumstances which would prevent the typical use of this part?

Is there anything to indicate when the development and improvement of this part for its typical use may be anticipated?

After commencement, what rate of development may be expected?

What is the estimated cost of developing and improving this Raw Land part, and the basis for this estimate?

Other data and factors may require special consideration in some cases.

Note: This is only a partial list of data and factors requiring consideration in the appraisal of Class C Raw Lands.

# Appraisal of Raw Lands in Western Canada

Discussion By MR. A. NEWMAN

General Superintendent of Lands, Department of Natural Resources,  
Canadian Pacific Railway Company, Calgary, Alta.

The part of the discussion assigned to me on Mr. W. E. Hobbs' excellent paper is to be directed to the appraisal of raw land in Western Canada, or if I may express it a little more definitely, the appraisal of raw lands in unsettled or sparsely settled areas in Western Canada.

I would like at once to suggest that this phase of the subject has a somewhat circumscribed field for discussion, so I therefore wish to devote my observations to reviewing an appraisal system which had its inception in the early period of settlement in Western Canada. This appraisal system was gradually built up by the Canadian Pacific Railway Company as the result of many years of experience, and has been applied with a large measure of success in classifying, grading, and valuing large areas of raw land, located in different parts of the West, ranging from virgin prairie to lands located in the park land belt and northern bush areas.

It is reasonably safe to say that no particular system of appraisal existed at the time, by which to fix a value except on what is regarded in appraisal terms as a comparative basis.

Mr. Hobbs has described certain areas in Western Canada which come under these several categories, and in each particular instance the appraisal problem is peculiar to itself, having in mind the particular type of farming to which it is adaptable. I would like to take the liberty of quoting by way of illustration certain types of unsettled areas in Northern Saskatchewan, and Northern and Western Alberta, in which the appraisal system of the Canadian Pacific Railway Company was applied to the valuation of raw lands, with satisfactory results. These areas were situated in what I have described as the park land belt, and extending North in Saskatchewan, and West in Alberta, to what I have referred to as the northern bush area. This extensive area can be cited as presenting a problem of definitely varying conditions, and offered a test to the soundness of the principles of valuation which were used. Development in the areas which followed, proved that the methods were well justified, and I think it will be agreed that the principles employed were fundamental to the success it achieved.

The conditions which bring raw land and unsettled areas into demand are many—movement or increase of population which may be affected by immigration policies or economic conditions—or what is probably the most natural, the reasonable expansion of nearby settlements.

Mr. Hobbs has made special reference to the difficulties which present themselves in the appraisal of lands in the Northern bush areas due to the cost of clearing bush, and the time necessary to bring the grey bush soil into profitable production. However, though these areas may, from general observation, appear to have no charted value, there does in fact exist and will continue to exist, a demand for such lands as other parts of the country become more densely populated, provided they are so located



as to be suitable for settlement, and the economic production of crops. Consequently there must be some basis of appraisal which will determine the essential factors on which to approach such a valuation.

The period within which these bush lands will, in the normal progress of things be brought under economic production, is an important factor, and some authorities now predict that this type of land possesses certain inherent qualities of soil which will place them on a parity with the best producing soils in the country. It is land which definitely comes within the low bracket values, and consequently appeals to the farmer with small capital and a nucleus farming outfit, as he enjoys the advantage of building, fencing, and fuel material, as well as adequate pasturage for a limited number of livestock for home purposes. Consequently, with the application of his own labor in the development of the land and improvements, there is created an immediate home and production value.

I will, as briefly as possible, outline the appraisal system of the Canadian Pacific Railway Company, under the following divisions—

#### **Soil and Topographical Survey**

For the purpose of illustrating this soil and topographical survey I have had a typical field sketch prepared showing some features of classification and grading.

A careful and detailed land examination is made under which the soil is classified and graded. This grading embraces type, character, profile and quality of soil and subsoil which classifies it as arable or pasture land. The grading also includes topography and makes allowance for stone, sloughs, brush or timber. These factors are all considered and brought within standard grades rating from One to Five "C", on the arable land. The Land Appraiser in establishing these land grades gives consideration to all these factors, and in his report shows how he arrives at the final grade of the land by indicating the grade deductions as these various factors or conditions may warrant. Estimate of stone and timber is required, also cost of clearing.

I will discuss in more detail later what constitutes our grade one land—but briefly it consists of the best loam soil with perfect topography and is free from stone, sloughs, brush or timber. In other words grade one combines all the features of the best type of land which can be found anywhere and has no minus deductions for physical, surface or soil deficiencies.

I now come to the classification of pasture lands: This classification is divided into four grades—P., Pa., Pb., and Pc. representing respectively good, fair, poor and very poor pasture. It might be asked as to when arable land passes into the pasture classification. This could be comprehensively answered by saying that when for reasons of poor soil, or when the cost of clearing stone or timber is beyond a reasonable economic figure, or the topography is rough, consisting of hills or very heavy rolling country, the land ceases to become arable and passes into one of the pasture grades.

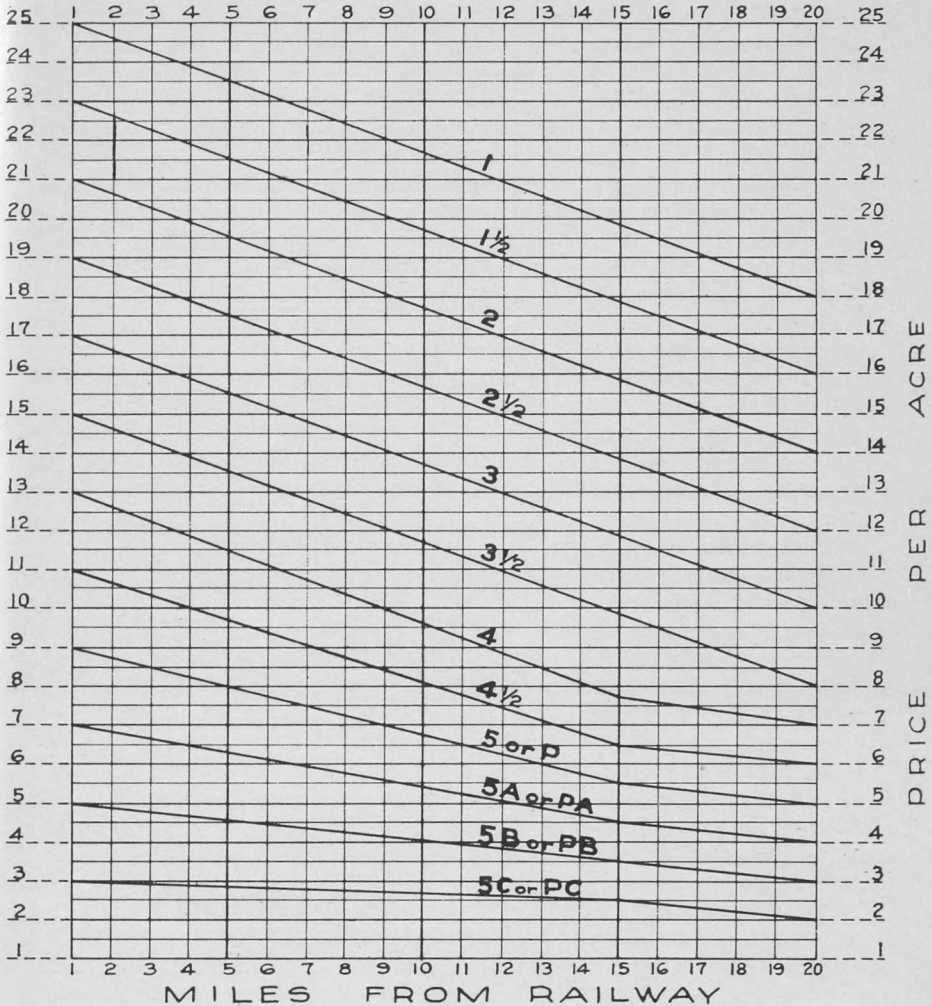
In summing up this process or system of grading, when the entire unit has been surveyed, the different parcels are summarized under the various grades of arable or pasture land, thereby giving an immediate comprehensive and compact picture of the character and quality of the particular unit of land.

The fundamental importance of soil classification and grading cannot



# NON IRRIGABLE LAND PRICES

MILES FROM RAILWAY



Approved March 5th 1936:

*Sy Porter*  
Manager

*[Signature]*  
General Superintendent of Lands.

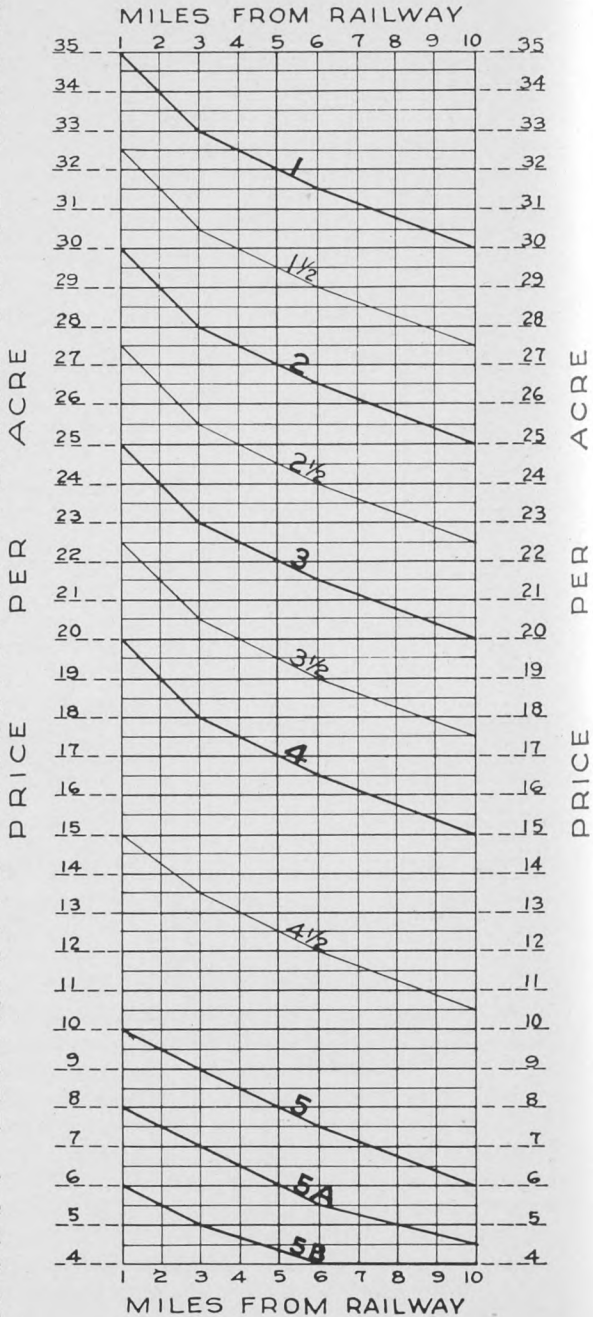
*Williams*  
Compiled

# WESTERN SECTION LAND PRICES

we apply in on District a plus factor of 25% while in another District a minus factor as great as 75%, thereby establishing a price on Number One Land in the former of \$31.50 per acre, and in the latter of \$6.25 per acre.

In Western Canada I think it is safe to say that land values have followed generally the trend of wheat prices for many years, and although a large part of our farming area lies in what is known as the Parkland Belt, where grain and mixed farming practice predominates, yet the rental and productive income of the farm have been, with certain exceptions, based on wheat production. Bearing this important fact in mind it is our considered opinion that land values have stabilized themselves sufficiently to bring within the scope of general acceptance a price factor which can be applied with reasonable accuracy to what a Grade One parcel of land is worth in a Number One District, with all the facilities and amenities which would necessarily go with it.

In order that you may more fully appreciate this Grade One parcel on which the base price of \$25. per acre is fixed, I would define it as land



having a good surface presenting no physical obstructions such as sloughs, coulees, hills, bush or stone; topography nearly level to undulating, without excessive drainage, and with good productive soil. It may be questioned whether a price factor arrived at on this basis as against the productive value capitalized over a period of years is not too rigid to meet a proper system of appraisal in Western Canada. On the other hand, as statistical records accumulate they can be used for the purpose of modifying or adjusting the base price and district factors in such manner as will make them conform more nearly to actual conditions.

There is another phase having a distinct bearing on valuations in Western Canada, which has not been sufficiently considered in determining revenue derived from livestock operations on the typical farm, and revenues from other sources which ordinarily are classified as home income.

At the commencement of my remarks dealing with the appraisal of raw lands in Western Canada, I referred to the system used by the Canadian Pacific Railway in the valuation of an extensive area located in Northern Saskatchewan and Northern and Western Alberta.

I now propose, in conclusion, to summarize these methods, which have proven to be sufficiently flexible to take care of all the factors entering into the grading and pricing of this type of land, and which are equally adaptable to any other area coming under the category of raw and undeveloped lands.

(1) The necessity for careful preliminary study of the type of farming and crops suitable to the particular area.

(2) A study of the economic factors involved in clearing the lands of stone, brush and timber, and bringing them into production.

(3) An accurate soil and topographical survey, such as I have outlined, applying a sound system of grading and pricing.

(4) A carefully estimated District rating based on all the factors relating to type of country and character of settlement.

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## The Appraisal of Undeveloped Land Which is Part of a Developed Farm Unit

J. W. CANFIELD

Inspector, The Great-West Life Assurance Company, Edmonton, Alta.

The portion of this discussion with which I have to deal, namely undeveloped land, as referring to the uncultivated land on a farm unit in the older established communities, presents, I believe, to the appraiser operating in what is commonly known as the Park Lands and the more Northerly bush covered areas, problems the evaluator of the strictly prairie region does not encounter.

The problem of setting a value on raw, undeveloped, but potentially valuable land appears to have received scant attention by authorities on appraisal. It does, however, as I have suggested above, present a practical



problem to appraisers who operate in those productive farming areas of Northern Saskatchewan and Northern Alberta.

I do not propose to outline what I consider a proper approach to be used in valuing cultivated land, but I am proceeding with the subject on the assumption that you are all familiar with a sound method of arriving at a valuation on cultivated land, as this is a starting point which must be given full consideration before even attempting to arrive at a valuation on undeveloped land.

Undeveloped lands usually have a value based on anticipated or potential income, the estimate of which is based on current and recent past experience with similar land in actual operation. Any land, therefore on which any gross farm income could be earned, will always have a value, apart from lands which might be set aside for sentimental or other reasons.

I recently conducted a survey of a very large number of farms taking a cross section of Alberta, the province in which I am at present operating, in an effort to ascertain the percentage of "Undeveloped Land" per quarter section which has not been brought under cultivation. You will understand I now refer to the acreage which has soil qualities equal to that which has been tilled, and if brought under cultivation, could be expected to uphold the known production record.

We will, at this point, eliminate from the picture those areas which are generally agreed to be of no agricultural value. We will also dispose of those areas which we consider are not in any way desirable from a standpoint of income. Such lands making no definite contribution would include muskeg, swamp, excessive stone, etc., usually classed by appraisers as waste. Undeveloped land on which the cost of removing stone is excessive, or the very heavily wooded areas of the North, we agree, are termed non-arable, and carry a value of judgment only, dependent upon the uses to which they may be put by the owner.

For the purpose of this discussion, I will therefore, in all instances refer to land which has been kept in the virgin state for some specific reason, or that land having equal potential value in relation to the area under cultivation, omitting the classification of waste and non-arable, and will assume where comparisons are made, all factors affecting production are equal.

Many of you, I am sure, will be considerably surprised to learn that my investigations in a large area of Alberta show that no less than an average of thirty acres per quarter section are in this category. The question at once arises, why has this land not been developed? Through observation, discussion and enquiries, I find many reasons why it is desirable to retain this portion in its natural state.

The following might be used as examples:

1. The building site.
2. Driveways.
3. Ornamental trees.
4. Garden plots.
5. Windbreaks, wood lots and shelter belts.
6. Pasture and runways for stock, etc.,

or any portion of land that may be adapted to a particular use to the farm in question, and consequently, is of more value to the owner in the un-

developed state. A point which must not be overlooked, and to which full consideration must be given, is that part of the land which is not under cultivation by reason of the fact that it is essential to the operation of the farm as a unit, and may have as great or greater value than the cultivated area. It is apparent, such portion, although suitable for cultivation, has not been brought under cultivation for the reason the farmer can utilize it suitably and profitably for other purposes. The appraiser must see that this uncultivated portion is properly reflected in the final value, either through earnings or home uses.

For instance, the farmyard itself, the value of which undoubtedly is reflected in earnings and home uses. Adjustments might well be added by reason of attractive features, such as a well kept garden, hedges, trees or beauty spots, views obtained from the land or the approach etc. All of these have a definite part to play in enhancing the value for home uses. There may also be some particularly desirable portion of the property adapted to take the form of special facilities for poultry raising, bee-keeping or other means of producing additional revenue to the home income. Such items would, of course, only apply under unusual circumstances which permit ready accessibility to market the products to advantage. The location may encourage such activities to an extent where they definitely contribute to value, and make it a factor which must not be overlooked.

Also, the windbreak surrounding the buildings and home site, and those natural bluffs allowed to remain at various points throughout the cultivated area by the farmer who realizes that it is detrimental to clear and bring under cultivation large tracts of land in certain localities in our prairie provinces. The farmer who fails to recognize the importance of these small natural bluffs removes afforded protection from wind which results in serious losses caused by soil drifting, also losing the beneficial effect in alleviating a possible drouth situation. He should be encouraged to leave these small bluffs to assist in combating wind erosion. Each year it is increasingly apparent to all of us who are land appraisers, that the effects of soil erosion is becoming a serious problem which must be given due consideration as directly affecting land value. Therefore, the contribution made by these areas left under natural cover, thereby assuring proper protection from erosion, should receive special consideration when evaluating.

Thought should also be given to the possibilities of a readily available supply of fence pickets and wood for fuel purposes. In certain localities, where markets are available, the sale of cord wood, poles and fence posts, etc., from a wood lot on a farm, provide a substantial increase in annual income. As this work is usually done at a season of the year when other farm activities are not requiring his immediate attention, it offers an opportunity to the farmer to supplement his earnings by utilizing leisure to advantage. Quite often the value of such supplies may offset to a large extent the cost of clearing the land in preparation for cultivation should this be contemplated, and then again the unimpaired native fertility of the soil will frequently fully compensate the cost of clearing.

I would say that before proceeding to determine a value, it is important to establish the proper relationship as between the undeveloped and cultivated area. Be very sure your conclusion in respect to the cultivated

area is not affected in any way by an adverse feature such as a poor state of cultivation, a bad weed situation, or some other minus factor which the appraiser will fully determine.

We might be disposed to say that provided the undeveloped land is equal in production possibilities to the cultivated land, and that the acreage which is contemplated as desirable to bring under cultivation is as good as what is already cultivated, it can be placed at a certain percentage of the concluded value on the cultivated area. Some appraisers in the past have simply placed a 50% value on land in this classification as a general all round rule. It is obvious however, this method could lead to great discrepancies. Cultivated land valued at say \$50 per acre under such a system would not produce the same comparison as the use of the same rule on cultivated land at say \$20 per acre. If an attempt is made to obtain such a guide it is quite clear the percentage basis should be on a graduated scale. One school of thought has endeavored to simplify the problem by the use of a table which provides a sliding scale taking a greater or lesser percentage of the established value of the cultivated land.

Let us assume for the moment a certain area of cultivated land has been given a value of \$12 to \$14 per acre. In using the method they suggest, undeveloped land, as now defined, would be placed at 2/5 or 40% of that value, which would be \$5 or \$6 per acre for the uncultivated land, as a starting point only. Under this system, the higher value placed on cultivated land, under comparison, would result in a greater percentage of that value being used to establish a base.

In practice, many appraisers claim the foregoing is an excellent guide in assisting to arrive at an equitable basis of comparison. They say it provides a starting point which will, subject to all factors which must be considered including cost of clearing etc., greatly aid in arriving at a satisfactory conclusion as to value. It must be understood, and I stress this fact, the foregoing is not given as a hard and fast rule, nor am I advocating such a system.

In pure theory it may be argued that raw land has no value other than speculative value because under an approach to value based on production, the appraiser values the land as he finds it on the day of inspection. However, in the valuation of cultivated land on a basis of production, the appraiser has to make the broad assumption that future yields of, and prices for farm products grown under **typical** operation will conform to the reasonably long time average of the past. In a district where the major portion of the land has been brought into a state of cultivation and has a proven history of production, I cannot but feel that an appraiser in valuing a small undeveloped portion of an otherwise developed farm would not go far astray if for practical purposes he related the value of the undeveloped land to that portion which is already under cultivation.

In the individual case, the problem as I see it, is one of weighing the advantages and the disadvantages of the proposed change in the use of the land estimating accurately by such facts as are available whether the land will, when developed, be superior or inferior in productivity to the land under cultivation, and determine accurately the cost of bringing it under cultivation.

It is not a difficult task to obtain accurate estimates on the cash outlay required to bring land into a state of cultivation where similar labour

has in the past been performed. From this point, when all other features have been given consideration, a plus or minus factor will result in an upward or downward trend.

While I have expressed in some measure my views as to the correct approach and given some detail of the problems involved, I appreciate little has been given to indicate any definite solution.

I am afraid I fail to see where we can fully trust any formula in applying it rigidly to the value of undeveloped lands, as it would appear that no amount of mathematical deduction will give a competent answer, consequently any value arrived at is directly attributable to sound judgment on the part of the appraiser, and is of an arbitrary nature only.

Very little can be said beyond this, the appraiser has to use in each case every piece of information that he can observe or gather, weighing all factors available and drawing from them a sound, definite conclusion, aided by his experience and knowledge to determine his value accordingly.

I think you will all agree that it has a value, in fact, it has been said "No investment on earth is **so safe, so sure, so certain** to enrich its owner, as **properly selected undeveloped realty**".

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## Progress of Appraisal Technique and Practice in Western Canada

### A SYMPOSIUM BY

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(This paper approved by the Board of Governors Appraisal Institute of Canada as their official contribution.)

#### **1. History of Appraisal and Appraisal Thought in Western Canada**

In Western Canada, since agriculture is the chief occupation and source of revenue, our national economy is necessarily keyed and credit based on the value of our agricultural land and its capacity to produce wealth. Sound appraisal is, therefore, of national importance. This large area, the Provinces of Manitoba, Saskatchewan and Alberta, is still one of the new areas—agriculturally speaking—in the world. The first white settlers came to Kildonan, on the present site of Winnipeg and North East along the Red River, in the first decade of the nineteenth century, one hundred and thirty years ago. Farming then was strictly on a subsistence basis, and so continued until 1875, when large areas were thrown open to

homesteading. Undeveloped farm lands were then acquired at \$10.00 a quarter section plus the cost of duties and development.

Often starting with little or no capital, settlers could not always obtain even short-term credit for oxen, horses, implements and permanent improvements. When some of these obligations became overdue and the movement of settlers from one district to another started in the early nineties, land being bought from homesteaders and the land-holding companies, there developed a demand for long-term credit, which was met first by Mortgage Companies, followed by Insurance and Trust Companies. At this stage the Land Appraiser became necessary to inspect securities for an increasing demand for long-term credit.

In the early pioneer days improvements were primitive, often consisting of a few acres of broken land and buildings of log or sod construction, settlements widely scattered and most of the huge area of Western Canada still in a "wild" or "raw" state. Appraisals under these conditions could only consist of a general survey of the farm and district and a lump-sum valuation. The development of a market price for farm lands was, naturally, slow. It was dominated by the heavy influx of settlers and their eagerness to acquire "cheap" land and make a fresh start in a new world. Appraisers were guided, at that time, in all discussions of land values—by its sale or market value. Thus valuations were based largely on the sale price of the farm or that of similar properties in the locality. The continued advance in the prices of farm lands, often unduly influenced by speculation, which factor is now absent, covered many errors of appraisal.

Pioneer Appraisers in this country, without any Western Canadian background of experience or information to guide them, were obliged to start from scratch, to create methods of valuation where none existed before. All praise to them for the good foundations they laid on which we are privileged to build today!

Left to their own resources, the pioneer Appraiser developed, by intuition, experience and training, workable appraisal methods in the same manner that the pioneer farmer grappled with and solved his problems.

At this stage of the country's development, soil surveys were unknown, meteorological records negligible, reports of crop yields not available, damage by frost and grasshoppers was heavy, hence Appraisers had, of necessity, to devise their own statistics and records, which many did by hard fieldwork and study.

The development of this new agricultural country was rapid. After large areas were brought under cultivation some districts began specializing in crops they found suitable to their local conditions and were aided in this by new and earlier varieties of grains; other districts diversified in response to the same urge of making the most of their immediate facilities for farming in this land of extraordinary variety of soil and crop growing ability, to say nothing of different national and personal opinions and practices. At the same time rust, frost, grasshoppers, drought and low prices were becoming recognized as recurrent hazards occurring at irregular and unpredictable intervals. Certain soils, highly productive when brought under cultivation, lost their early productivity with constant cropping and summerfallowing, while other soils tended to improve under cultivation.

All these factors and many others presented to Appraisers problems



which, at the first were baffling, but which, as time went on, were solved individually according to their experience and outlook.

From these cumulative factors it early became apparent to Appraisers that no longer could land values be based mainly on land price. This natural evolution of thought led to a study of farm revenues over a period of years, with the result that "ability to pay", with many Appraisers, took the place of "prices" of farm lands as one of the main factors of value.

During the fifteen year period from 1920 to 1935 appraisal thought developed steadily through the medium of studies and meetings held under the auspices of the Land Inspectors' Associations in Manitoba, Saskatchewan and Alberta. The so-called depression years, commencing with 1930, gave additional impetus to the study of appraisal and during the five years preceding 1936 many meetings were held, many papers were delivered, and a number of field days were arranged in the various provinces. During these years many of us in Canada had been keeping ourselves in touch with the development of appraisal thought in the United States and finally, in 1936, we arranged to hold a large appraisal conference in Winnipeg to which we invited Mr. D. Howard Doane as principal speaker in order that he might present for the benefit of the conference the latest thoughts that had been developed in the United States on the subject of farm appraisal. This was a two-day conference of over 200 Appraisers from Manitoba, Saskatchewan and Alberta and at this conference Mr. Doane made an outstanding contribution to the development of appraisal thought in Western Canada.

During the two succeeding years, 1937 and 1938, there was great activity among various groups interested in appraisal in the West, many Field Days being held in the summer seasons and study meetings in the winter. In 1938 a further large conference was held and again Mr. Doane was invited as a guest speaker, with the object of keeping appraisal thought in Canada further informed as to the development of appraisal thought in the United States. In 1938 we had the benefit of visits from Mr. True D. Morse, who kindly took part in field demonstrations in land appraisal conducted by a large group of Appraisers in Manitoba, and again in 1939, at Regina, Saskatchewan, a field demonstration and a two-day course of lectures to a company of about 200 Appraisers. These services were not only highly appreciated but marked a decided advance in interest in appraisal matters and strengthening of the position and standing of the recently formed Institute.

So much for historical background. The period since 1938 merges into the present to such an extent as to warrant treatment in a separate section.

## **2. The Appraisal Institute of Canada**

The Appraisal Institute of Canada is now of age two years and four months, but its youth portrays its present vigor and determination to persist and carry on, with the necessary energy and enthusiasm, to a long and increasingly fruitful future. The work that has already been done could not be the product of two years and four months of effort had not the roots of the Institute struck fertile soil in the years preceding. In 1920 the first Land Inspectors' Association was formed in Regina, followed at intervals of a few years by Associations at Edmonton, Saskatoon, Winnipeg and Calgary.

The Institute has been formed to cover all aspects of appraisal—rural

and urban. It was decided to start with the study of rural appraisal and, when opportunity occurred, to take in also urban appraisals in the cities and towns of Canada. The Institute already has many members highly qualified in urban appraisal and through these and with their help it is hoped to open and broaden Chapters in the cities for this branch of study.

As the name implies, it is planned and expected gradually to extend in rural and urban appraising throughout Canada from coast to coast. This is an undertaking so large as to call for the best efforts and organizing energy of the most able men available for many years to come.

The Institute has been planned on democratic lines, so that every member, in any part of the country, has the opportunity of contributing his views and influencing policy and direction. This, of course, carries with it the disadvantage that, as the majority must decide, minorities are created who, to make their influence felt must, by persuasion and argument, convert their associates to their views. Out of this healthy interchange of ideas come growth and development along sound lines.

### **3. Aids Available to Appraisers in Western Canada**

Having an Institute it is necessary for it to be furnished with equipment for its proper and efficient operation. Of these, one of the most important is a study of soils and authoritative maps of soil surveys. Happily, we have in each of the three Prairie Provinces, Soil Departments of the Universities presided over by the able Soil Scientists, whose work and publications are known far beyond the boundaries of their respective Provinces. We have had the privilege of working in close co-operation with them for some years and have benefitted greatly from their information and advice on our prairie soils. They have given us their whole-hearted co-operation, which we all deeply appreciate.

We have been well served with meteorological data emanating from the Dominion Meteorological Bureau at their numerous stations, which has been published and analyzed by several agencies.

In data on crop yields we have figures published by the three Provincial Departments of Agriculture for approximately twenty years by crop districts and municipalities. These are comparatively large areas and sometimes include various soil types. For our purposes we also need records of yields in each soil zone for as long a period as possible. Statistics have been gathered of individual farm records in a number of municipalities in Saskatchewan, but these have not yet been published. When they are released it will be a valuable addition to our present crop yields data. The Appraisal Institute has this year started a plan to collect through its members long term records of crop yields from representative farmers for specific soil types.

From these few remarks under this heading it is apparent that we have in Western Canada Departments of Agriculture with all their many branches of activity, Statistical Agencies, Elevator Companies and commercial firms all collecting, collating and publishing valuable information of which Appraisers may take full advantage and to all of whom we are greatly indebted.

### **4. Appraisal Practice in Western Canada To-day**

The brief historical survey brought the progress of appraisal thought and practice up to the end of 1938, the occasion of the second visit to Winnipeg by Mr. Doane. What developments, if any, have occurred since

then and what is the situation to-day?

This is a difficult question to answer with any degree of assurance, for the reason that, while we have an Appraisal Institute, there has been no recent opportunity of securing opinions of members other than by means of small groups of Appraisers centred in the different cities. Whether these can be taken as representative of the whole is a question, but, for this immediate purpose there is no other course open.

Certainly what is here known as the North American System has had a profound influence on the opinions and practice of all who have been brought into contact with it. Hence, it is so well known, and, indeed, has already been dealt with fully at this conference, that it is taken for granted as a recognized System of Appraisal for which Appraisers in Western Canada have developed the highest respect and admiration.

They like the logical sequence carried through from beginning to end, the meticulous detail of each section where nothing is overlooked or left to chance, the building up with the "inevitability of gradualness" to the final figure—the basic value.

Appraisal practice in Western Canada often necessitates valuations of large numbers of properties in relatively short seasons, hence it is impossible to develop reports for each appraisal in the detailed manner that would be desirable in the interests of completeness. Members of our Institute are in general agreement that the principles of basing final value on long-term net capitalized rental earnings, with the essential adjustments, are sound. This is a system that has been used for over a century in Europe with satisfaction.

The actual appraisal methods adopted by individual appraisers and the type and length of report used are secondary to their appraisal reasoning being based on and following sound principles and finally producing satisfactory, consistent results.

The cost of appraisals for areas of relatively low valued agricultural land must be lower than for similar areas of high agricultural value. To keep appraisal costs at a proper relative figure for low valued agricultural land necessitates a simple, systematic approach, but still having long-term rental income, primary and other factors that comprise value all contributing their proper proportion to the final figure.

There has been developed by many Appraisers a systematic method of appraising farms to be used as key farms in selected districts. Data accumulated for the key farm is available for the appraisal of other farms in the district of the same soil type.

It is realized that every farm is a separate and distinct appraisal problem, having certain characteristics peculiar to itself, but, so long as the key farm is used exclusively in relation to farms of the same soil type and similar local conditions and proper adjustments made, it has been used with apparent satisfaction. It has the merit of saving time that would otherwise be duplicated in research and calculations for farm properties having so many major points of resemblance. Most Appraisers in Western Canada accept the principles of the North American System as sound, but conditions peculiar to this country and our appraisal practice suggests the expediency of some simplification of the method.

What is known as the Comparative System is still in use in Western Canada. Without having been called by this name it is probably the

oldest method in constant use here, and it has many advocates. Based on long-term production, Appraisers from experience gradually allocated to the different soil types the value per cultivated acre and from this base valued the unimproved parts of the farm and improvements. The value per cultivated acre is not by any means a fixed figure, but is used as a base for other similar farms in the same area, also being balanced against valuations in other districts. The advantages and disadvantages of this method are too well known to need further elaboration before an audience of Appraisers. Where the Comparative System has been used without due consideration being given to long-term rental earnings, serious errors have and are being made.

Appraisers are 'rugged individualists', to use a current expression, and will not sacrifice a practice found useful from long experience until they are fully satisfied the method or system offered as a substitute is at least equally satisfactory. This is a good quality of mind and indicates that when sound opinions are adopted they will be strongly held and their work and services the more highly valued by those dependent on their opinions.

Appraisers realize there is no magic formula by which to arrive at value. Experience, however long, without constant and unremitting study will never make a competent Appraiser. Common-sense and appraisal intuition have always been essential qualities in Appraisers and are none the less needed today but in addition constant appraisal study is essential.

Land values in densely populated countries are generally higher and arrived at through a more elaborate basis than farms in sparsely populated countries. Western Canada clearly comes in the latter category. To this end it is necessary for Appraisers to be familiar with and able to use all sound systems of which they can secure knowledge and by so doing be the better able to substantiate their opinions.

Appraisers to-day have to broaden their vision in response to the transition from "horse-and-buggy" days to the automotive era of gravel and hard-surfaced roads. Our pioneer farmers compared their farms with other farms in the same district; to-day with the aid of automobiles, they compare them with farms in widely separated districts. So the Appraiser cannot confine his survey to the immediate district in which he may be working, but must take in large territory, evaluating one against the other for the purpose of arriving at sound judgment and relative correctness between values of all farms. The practical result of the transition from buggy to automobile days has been apparent in increase in values in the better districts and a decrease in poorer districts. In short, modern transportation has had a marked effect on location value of farm lands.

While, as previously stated, many factors influencing crop production prevailing rental for grain-growing or typical farms is a one-third share. over this wide Western area are ever changing and of many varieties the On the highly productive soils in certain districts the rental obtainable exceeds one-third, while in a few districts of low productive soils it is sometimes less.

All sound appraisal opinion in Western Canada is in agreement that the value of farm lands is based primarily on long-term rental income, under typical management, at prices for a sufficiently long period to

adjust abnormal fluctuations. Whatever method may be used in arriving at value involves these considerations, indeed they cannot be ignored. Attempts have been made to arrive at the net income of the farm operator, individually and for the average, but, as there are so many ways in which a farm may be held and operated, so many different results dependent on the skill or lack of it of the operator, that such data very difficult to obtain for average periods, is useful no doubt for economic studies but cannot be used as a sound basis for value.

The historical record of the rise and fall of farm land prices in Western Canada and reasons therefor would be an interesting study and one useful in appraisal work but can only be briefly referred to here. Appraisers generally agree that Value and Price are influenced by different factors and are complementary one to the other. In the past price has been allowed to influence valuations unduly, but with most Appraisers this undue influence has ceased. The basis of Valuation has been stated. Price has no firmer foundation than public opinion at any given time reflected in the desire to own farms or the contrary, as land only changes hands freely in periods of good crops and good prices for farm products when there is visible evidence of soil productivity. Hence, land buyers are most active on a rising market sometimes with little regard for value as such. On the other hand, in times of depression, land prices depreciate until there may be no recorded sale, leaving value little affected.

Another factor with which Appraisers have to contend in Western Canada is the great variety experienced—soil, precipitation, incidence of drought, grasshoppers, frost and rust, prices of farm products—so much so, that it is very unlikely that any year can be called a normal year. There may be years desirable from the farmer's point of view—wheat at an overall average of 20 bushels an acre at \$1.00 a bushel at the home town—but such conditions are too transitory to warrant the appellation of normal. Our normal is constant change from season to season, sometimes gradual, sometimes violent—a difficult enough field for any Appraiser to work in. This is sufficient evidence that values are not permanent and are constantly being influenced by many factors.

An attempt has been made to present to this Conference a very brief recital of the Progress of Appraisal, without stressing obvious and unnecessary detail; to show the roots from which the Appraisal Institute of Canada had its being and its development to date; to state the difficulties which Appraisers in Western Canada had to surmount in past years and those with which they still have to cope; to indicate the trend of thought, so far as this may be possible, of Appraisers and to convey the impression that appraisal opinion here is developing along sound lines from which, in due time, will emerge a body of opinion united on fundamental principles and the building up of an Appraisal Institute, vital, ever expanding, authoritative, which will earn the respect of Governmental Departments, Judicial bodies, the general public and employers. It is hoped that this attempt, has in some measure, been achieved.

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# Development of Rural Appraisal Technique and Progress During the Last Few Years

By D. HOWARD DOANE, Doane Agricultural Service, St. Louis, Mo.

Before Summer Conference of the American Society of Farm Managers and Rural Appraisers and the Appraisal Institute of Canada at the Royal Alexandra Hotel, Winnipeg, Manitoba, June 27-29, 1940.

I wish to divide my remarks into three divisions. Before I interject any of my own ideas let me dispose of the task which has been assigned to me to review and summarize the papers which you have heard at the previous sessions. This is not easy or pleasant. It assumes that the reviewer can add something, on the spur of the moment, to a subject on which someone has spent a great deal of time. I make no such assumptions. I will cover this phase of my assignment as briefly as possible.

## PART I

Follows the review prepared at the various sessions:

### INTRODUCTORY

This brings us to the concluding session of a significant meeting. Men have travelled many hundreds of miles from the corners of two great nations to lend their efforts, to support by their presence, and by their voices give encouragement to the institution of rural appraising. It would be difficult to raise a fund sufficient to pay those who have participated, if paid in accordance with their current earnings, for the time they have freely contributed. Just why at this critical time in world history should these persons turn their attention to a subject of this kind? What is there about the appraising of land that gives it a right to intrude itself into the thinking of men of national stature. These are some of the questions I have asked myself.

The foundation on which the economic structure of these Nations is built is the creation of wealth by use of labor, capital, land, and management. The great diversity of ways in which these factors may be combined to achieve a given end suggests the necessity for creating means for measuring the relative value of that which is created. One man working out his objectives sees in those physical forms the effects of his efforts. Soon another arrives but the results of **his** efforts makes a different pattern than that created by the first. If these men and their fellow workers are to fairly exchange the results of their efforts, some means must be provided for measuring their relative physical values. Some one must say that the value of A's creations are a given sum and B's another sum. This is done by appraising.

**Appraising is a fundamental process in man's economic existence.** If the measuring of these values can be done equitably then men can work fearlessly and confidently that they will share justly in the fruits of their efforts. If the creators of the measuring sticks are incompetent,

frequently change the rules, and the basis of measurement, then discord, disappointment and disorder follows.

Twenty years ago we measured poorly. We set unreliable and false standards of values. Many have paid dearly for the errors of those days. They are still paying, and even then one generation will not pay it all. Someone is constantly setting the value on man's creations and possessions. These values are set for purposes of taxation, sales, purchases, adjustments, loans, and borrowing. Properly done all are benefited and men exchange their possessions equitably. Incompetent and erroneous appraising leaves in its wake ruined and confiscated homes, abandoned farms, loss of savings, and jeopardizes the validity of every life insurance policy and savings account in our nations.

Can we name one process in this economic world of ours that contains so much for good and so much for evil? How often does the appraiser realize that on the results of his report hangs the very existence of a home and the future of a family? We are told that the power to tax is the power to destroy. Taxes are based on appraisals.

Thoughtful men are saying today that this meeting is of historic significance. As nothing else can, appraising strikes at the very foundation of our existence as free nations. Those who assume to appraise accept grave and important responsibilities. No wonder then that appraisers and sponsors should gather at these conferences hopeful that out of them will come renewed courage, improved technique, and higher ideals for doing better jobs.

## PART II

I now wish to address myself to those who use appraisals. To you they are the basis or foundation on which you build your business. You are the consumer who purchases and uses appraisals. Your interest lies in obtaining a high quality product at a reasonable cost.

### **Appraisal Theory**

An appraisal is an opinion. That is my most significant statement. It is important because it at once defines the field in which we work. It tends to remove appraising from the exclusive realm of formulas, rules, and set calculations. This means that it is not probable that the one who commits to memory all the rules will be the best appraiser. Opinions are personal expressions. Thus, the field of endeavor for organizations like the Appraisal Institute of Canada and the American Society of Farm Managers and Rural Appraisers is definitely in the realm of personal relationships.

**All that any of us can hope to do is to improve and make more valuable an appraiser's opinion. (Dr. Green says 25% look, 75% outlook.)**

Let us dwell upon that thought for a moment. I know there are those among you who are luke warm about this whole subject. You see in it changed, new, and perhaps harder, work. You visualize the necessity for creating new forms, employment of new men, and acquainting your boards and committees with new methods. Well if you must do all of that **at once** perhaps you should shudder and be slow in introducing a revolution into your own business. Fortunately, the process of changing opinions is a gradual one. In no field is it done overnight. I know of no method for wrapping up the ingredients in a package, delivering it to the

patient with the instructions, "take according to directions" and having at the end a new and changed man. True, the facts on which open minded men base their opinions may be sought and made available in a short or long period. One may seek them with diligence or avoid them. This is entirely a matter of our own choosing. You consumers can say to your appraisers, "Stay away from any new ideas about appraising. The job you are doing is so nearly perfect that we do not want you or the system you use changed in any degree."

Strange as it may seem, many are practicing that attitude even though they do not openly say it. I cannot conceive of a man who has attended all the sessions of this conference without inevitably having some of his opinions about appraising changed. The degree to which your thinking has increased your desire for more facts, added to your determination to pursue the subject further, marks the degree to which you have come within the objectives of these Societies. I do not know of one man who assumes to know enough about this subject to be able to prescribe a complete and finished course. If we could and tried it we would act in violation of our original definition. No, appraising is not a patent medicine, one bottle of which will make a new man. Appraising is a process. If you pursue the process you will gather **many** facts. With more and better facts one becomes a better appraiser. Should the acceptance of that doctrine dismay you? Is there anything about its precepts or implications that should cause you, the user of the product, to avoid or oppose it?

Now let us turn our attention to the actual application of our theory. Let me answer the question that I suspect is in the minds of some of you, as to just what we do when we attempt to improve and change opinions.

An appraiser reports to his home office thus:

"I have seen Section 8, Twp. 40, Range 20, etc., as described by you in your instructions for appraising and in my opinion the property is worth \$6000.00."

This is an appraisal. It may entirely satisfy the consumer. It is clear that it is the work of an exceedingly efficient appraiser or one who is very careless and cares little for his reputation. Some questions might be raised about the organization that willingly accepted it.

Answering the demand for more evidence that the appraiser has actually seen and analyzed the factors affecting value, his next report contains more discussion, which I will omit, and concludes thus:

Value of land—640 acres @ \$7.00 .....	\$ 4480.00
Buildings add .....	1520.00

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Total Value	\$ 6000.00
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This report shows more details and to make it the appraiser has had to prepare a somewhat finer analysis of the facts.

However, a demand for more evidence of having carefully done the job is made, so the next report divides the value factors thus:

Earning Value .....	\$ 4000.00
Additional Locational Value .....	1500.00
Additional Home Use Value .....	500.00

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Final Basis Value	\$ 6000.00
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From an honest appraiser's standpoint there is lots of difference between the first and third appraisals I have shown. The more facts he presents the better his defense must be prepared. In preparing for his defense he must seek and **know** the **facts**. Now you, his boss, ask why he said the earning value of this farm was \$4,000.00. How can he answer that without knowing something about crop yields, prices, rent terms, taxes, building maintenance, soil fertility, soil structure, erosion, drainage, and topography. In fact, it is in these terms that he must make his answers. The same applies to his building appraisal and any and all statements within the body of his report.

Now let us jump to the details set forth by Mr. Morse and his panel at the first session of the Conference. No appraiser would dare to turn in a report embodying all those details without being prepared to defend them.

How can he defend them without knowing them? I am sure you will agree with me that the appraiser who knows them must be a student of the subject of appraising. Being a student he must have a wide range of facts and theories on which to base his final opinion of value. Thus these societies would aid appraisers in their selection, study, and application of facts so that their opinions would have more and more value, more standing, and more respect.

Now you, the users of appraisals, set the standard for your own organizations. Just what evidence do you want? Are you satisfied with the first form I presented? If not, is the second acceptable, or do you want the third, the fourth, or the best that leading appraisers are capable of giving you? Surely you can see that it's all a question of degree. At what point do you wish to stop? Each must answer that question for himself. You can as easily have the last as the first if you are willing to pay the price. I can assure you that you will get little more than that which you demand and for which you pay.

Is it not significant that the initiative for better appraisals has come from the makers rather than the users of them? This, however, does not relieve the user from doing a just and fair part. Certainly he should not discourage an employee who asks for an opportunity to attend a meeting like this. He should not scoff at efforts to change forms which will give his men a better opportunity to express all the facts. Above all I should think every user would agree with what Mr. S. F. Westbrook, Vice President of Aetna Life Insurance Company has so often said—"I want an appraisal report that presents a sound line of reasoning, adds sufficient detail to support it, and draws a conclusion in such a manner that I may intelligently agree or disagree with it, based on the facts shown. I resent those appraisals which rest their values on unsupported opinion. The appraiser who gives as his only reason or support of his value—"it's so because I say so" gives me no reason at all. I am left helpless in defending my recommendation to my loan committee for approval or rejection".

Surely, every officer of every company who has had the responsibility of passing on appraisals for loan, sale, or any other purposes will agree with this sentiment.

### Employers' Ethics

Professional organizations have what they call a code of ethics for their members. These codes are set forth as a guide to individuals in determining what the Society as a whole deems to be proper or improper conduct. Independent professionals as lawyers or doctors are concerned with ethics as between themselves, their clients, or patients, and their Society. Professional appraisers have in many cases a fourth party, their employer. I should like to say a word to you employers on this subject.

Not long ago we declined an employee's application for membership based on what his employer had asked some of his employees to do.

That statement is sufficient to let you understand how that one deed or act on the part of an employer cast a cloud on every man in his organization. How many young men needing work and wanting to hold their jobs could withstand that pressure? How many others had he asked to do the same and who had, and who had not, followed his wishes?

You employers have as great an ethical obligation in building correct ethical practices into sound appraising as do the appraisers. I could show you from the files of our Society that some of you are now putting the wrong kind of pressure on your appraisers. You are asking them to get on two sides of a transaction. You are demanding reports when the land is covered with snow. You are calling for low cost appraisals, hence short periods on the job that prevents careful and thorough work. I am glad your men feel free to write us knowing full well that we will never violate their confidence. Let me again say that you executives have your obligations. These two societies in Canada and the U.S. are dedicated to the highest ethical standards for its members. **This is the appraisal users greatest protection. Help us maintain it, don't tear it down.**

### Using An Appraisal

Few, if any, of the things that have contributed to the well being of man have done so without definite contribution on his part. If these two Appraisal Societies could bring to final completion what we might today call the perfect appraisal system, and hand it, in its completed form, to all organizations using appraisals, I feel safe in saying it would fail to give full value to the great majority of potential users. No one will dispute the fact that an efficient appraisal system calls for intelligent and well trained appraisers to make it work to its maximum efficiency. Likewise may I add that they must be intelligently used if their full value is to be obtained. Here are a few of the requirements that **users** must meet.

1. You must first want better appraisals. If you are entirely satisfied with your present appraisal system, if it meets all your requirements, and has proved by past performance that it is safe and dependable, then don't change.

2. You must be willing to pay the price for a better system if that's what you want.

The monetary cost is not the biggest item. Any change calls for either major or minor changes throughout an organization. The biggest part of the cost relates to mental adjustments, the second is change of routine, the third, the appraisals themselves.

3. You must apply the results of the better appraisals to actual practice.



This may mean changes in personnel, addition or elimination of certain territories, decreased volume of business, and the creation of a system of analysis which will keep all records and results up to date.

4. You must let your appraisers be appraisers and not at the same time make them business producers, traders, advisors, and managers. A good appraiser has his hands full if he sets correct values. He should not then be required to tell his sponsor whether to buy, sell, loan, or trade. Demand that he set forth the facts. On the facts let the executives base **their** decisions.

In short, better appraising calls for a better **system of appraising** and a **better system for its use**. Responsibilities must be definitely delegated and placed where they can be most effectively executed. More statistical data should be made available to appraisers and it should be kept up to date. Appraisers should study continuously, keep abreast of current literature and in due course make their contributions from experience, so that theorists will not dominate the council tables. Both users and appraisers must keep open minds and be ready for changes when experience shows a better way. Appraising is a process, so is appraisal use. Beware of half hearted participation. Better go all the way or wait until you are prepared to collect all the dividends from your investment. There is much that you can do while waiting. However, one is to see others leave you behind.

### PART III

The remarks that follow are directed to those who make appraisals, or otherwise work with the technical aspects of them. I shall point out some of our weaknesses and make some suggestions for their improvement.

#### **Ethics**

The first and most important aspect of our work deals with the ethics of appraising. Some of you have heard me say that all we can do in the field of appraising is to help you as appraiser express a better opinion. No matter how many tools and tables we give you, or you originate for yourself, you will never be a dependable, useful appraiser unless and until you use your abilities and equipment in the highest ethical manner. You may have read a sentence in the first report of the National Joint Committee on Rural Credits which says:

"No technical superiority can ever take the place of the highest standards of practice."

My colleagues on that committee will probably recall that I requested that it be inserted. I wish that it might be hung as a motto above the desk of every appraiser.

The whole field of ethics is rather hazy in the minds of many. Here are a few specific ways in which ethics concern appraisers:

To short cut your duties and obligations is always a temptation.

The owner or tenant can tell you the kind of fence that borders that distant field so why walk back there? It would require a half mile of extra walking, and the land looks to be all the same. The easy way is to short cut the walk.

I have never seen just the right kind of weather for working a soil auger. It's too hot or cold, or dry, or wet. It's so easy to look at a ditch bank or road cut and see the whole story for all the farm.

Extra driving to look up persons not at home or at an office is an

awful bother. Why not ask the farmer's wife or the hired man? They all know just about what the answer is, and that is good enough.

All appraisals are for a purpose—loan, sale, purchase, or some other transaction. Naturally an appraiser likes to please his employer or client. Even though no formal request has been made, there is the constant temptation to adjust one little figure so that the loan can be made, the deal will be consummated, or the unfortunate farmer will not be sold out. Nobody will ever know you did it. After all, the only defense that is needed is, "Well, that's my opinion".

So, from the moment an appraiser receives an appraisal assignment until it is signed and on its way to those requesting it, there is the constant temptation to adjust it. A still, small, voice is saying, give a little here, take a little there, short cut this, add to that, or change some statement or figure to attain a certain end. Only those men who have a high sense of ethical obligation to the profession can resist these temptations. There is no training, no experience, that will take the place of that little inside voice that speaks up and bothers us when we are tempted. Don't stifle it. Don't try to put it aside. Better cultivate it and give it a fertile field for growth and long life. It's your most valuable asset. It adds most to the value of your opinion.

Now for some technical details. One of our greatest needs is more and better soil data. In the states we are using the 1 to 10 soil rating system. We say that soils ranking 1 are our best and those ranking 10, the poorest. When these ratings are carefully applied, understood, and used they are a great help. Our soil men are now saying they are going to abandon them because they are not accurate, not always correct. They forget that it has taken from the date of the first soil work in the U.S. to about 5 years ago to get appraisers to using soil data, designating soils by their proper names and endeavoring to see them as soil experts see them. The journey from pure research to practice is a long and hard one. Those who are responsible for giving us a set back should move slowly. Better had we work with an imperfect system than none at all.

Unless the soil people can give us a simple, practical system in place of the one some are now criticising, there is a chance that we will abandon the present system, adopt one worked out by appraisers, or go back to the old confusion we were in before the present plan was undertaken. Further we cannot overlook the fine productivity rating work which Dr. Hudelson has done. To that end I should like to make this suggestion.

Recognizing that some of the oldest and most successful appraisal systems in the world are based on indices of productivity, let us begin now a study of its application to these two countries. Dean Hudelson has shown us some of its possibilities. If we could find a way for its practical application to present day methods and needs it would be the **one greatest contribution that could be made to North American Appraisal procedure.**

My next point deals with yields and prices of farm crops. We have experimented for about 5 years with many plans. The time is now here for the creation in each country of a National Board that will study all available data. Within a plan it should begin publishing annually a national index of yields and prices. When this is set then it would be easy to create a set of tables showing differentials for regions and subdivisions of regions. With this once carefully set, all that would be

necessary to do would be to annually set the national index. Of course, in setting the index many factors would be considered, and in addition to averages, weighting would be necessary. The application of some of the forward thinking of Mr. Hobbs should be applied. There is no man of my acquaintance on either side of the line who has of date contributed more to this important field. His leadership should be used in the sound starting of this big task. When it is once accomplished we should consider lifting the restriction of the fixed price for appraisers, and allow them to set their own prices within limits, and under certain conditions, on each individual appraisal.

I should next like to see a comprehensive study—let some one work on it for a doctorate—made of the proper basis for determining income, i.e., landlord-tenant, or operator. In my own mind I most definitely stand on the side of the landlord-tenant relationship. The more experience I have with it, over an ever widening area, over more and more types of operations, the more convinced I am that it is right. At present many are wobbling from one view to the other. That simply creates confusion and raises doubts in the minds of those who do not know, but are seeking light.

Let us hold fast to "typical" and "basic value". They are two of the three or four major contributions to the science of appraising that has come out of the American Rural Appraisal System. I need not discuss them here for I have often expressed myself about them before. To me they are two fine, solid foundation stones on which we can build for a long time to come.

Our present concept of the creation of the capitalization rate is one aspect of our procedure with which I am not satisfied. Of course, I am not referring to the matter of the exact amount of a rate such as 4, 5, or 6%. I refer to our concept and its present relation to monetary considerations such as interest rates, Government bond rates, risk rate, etc. As I study this subject in different areas in the U.S. and other countries I find different types of thinking. This point is well illustrated in the phrase used in England by their appraisers, "years to purchase". I am not saying that their's is the best viewpoint for us over here. I am saying that the view which they use comes from a different concept of the subject. We must, if we are to solve this question, also divorce our thinking from interest rates and **create** a concept that best fits our conditions. To this end I would suggest as a starting point the phrase, "period of present stability". This suggests the length of time that the appraiser estimates that the conditions he has visualized as typical will remain as he has seen them, and the probable direction of the change, if and when it comes. For example, if the appraiser feels that what he sees today should remain about as is for 20 years his rate would be 5. That period might be less but there is clear evidence that the change, when it does come will be for the better, thus the same rate might apply. On the other hand, clear evidence of erosion of a character not yet controlled indicates a short period say 10 years, hence a rate of 10.

Please understand that I am simply throwing out a suggestion for a new or different approach for changing net annual income to a capital sum. I am not saying that my illustration is the answer. Let's have the English view fully discussed. Let's have other views and different concepts

until we feel that we have covered the field and then adopt an all American plan.

A third foundation stone of the American Rural Appraisal System is the concept and use of adjustments to express locational and home values. What we need, however, is a slightly different view than "actual" in working and applying them.

When adjustments by comparison are made we now assume actual. This has limitations and it is frequently confused and intermixed with potential. This latter concept is dangerous. It is doubtful if it ever has a place in appraising as it is ordinarily conceived.

If we might find an intermediate view which would cover the less extreme aspects of potential and go a little further than actual, a useful concept would result. In an attempt to fill this gap the term "probable" is suggested—it also has some disadvantages.

To illustrate the use of "most probable" let us assume that we are appraising an unimproved farm. This would quite naturally prohibit the making of any adjustments for house, yard, garden, and other items that related specifically to the actual persons or residents on the farm. Other items under this division, however, such as scenic, neighborhood, schools, churches, nuisances, etc., could be best thought of in terms of their "most probable" use. There is no argument about the physical presence or absence of an engaging view, specific nuisances, etc. Adjustments could be made for them on the basis of the "probable" effect they would have on the family that would in all "probability" occupy the premises. If we were thinking of a magnificent view in the heart of the Ozarks or Rockies where views are as common as scrub oak or snow, the value of it to the most probable occupier of a given tract would indeed be small. However, the opposite would be the case in reference to a hill top view twenty-five miles from St. Louis which overlooked the Mississippi River. The probable occupier of this land would be a wealthy St. Louisan whose ownership of it was based primarily upon its advantages from a scenic standpoint. This line of reasoning would apply to all comparative adjustments under economic and home uses.

This suggestion is given as thought for further development and with the hope that out of it we might find a word or phrase which will make it possible to view more accurately the background for our adjustments and provide something equivalent to the very helpful term "typical" we are now using in earnings.

Let someone seeking a research problem undertake a careful study of the effect of distance from market or land value. The effect of different types of roads, electric lines, bus service and other facilities, all have some influence. Can they be measured? Some say no, not until our agriculture matures as it has in European countries. Perhaps this is right but let's make a start.

Not long ago a man said a ranch we manage and which is for sale, was worth 50 times the number of mature cattle it would support in 1 year. He estimated that it was 750 head. This times fifty gave him \$37,500.00 which he said was the ranch value. Let's seek more of these measuring sticks, ranch appraisers now have a number of them.

I believe many of us are confused as to the type of thinking we should use in approaching the final adjustment figure. Should it be positive or

negative, or both? Should we make deductions and fix penalties for the absence of things we deem desirable, or set value only on that which we see? Should the appraiser's reasoning be that the farm needs a well, or perhaps a better well, a wind break, or chicken house, and because they are absent he should deduct from a value set on the assumption that they are present? This is the negative approach. If the proper view is one that simply sets a value on what exists, as it exists, on the day of the appraisal, then we need not concern ourselves with the lack of what might be called desirable additions.

I have always leaned toward the positive view of valuation. I fear greatly the theory that permits an appraiser to build up a theoretical value for his view of the desirable or perfect, and then proceeds to arrive at final value by a series of deductions. Good appraisers are not planners of what should be. They are not critics of what exists, or builders of roads or communities. They are judges of what they see. They weigh the visual evidence in the face of known facts. This demands the positive approach to valuation.

One of the hardest problems is to measure intangibles. When a farmer and his wife appraise a farm and the farm house from the standpoint of its value to them as a future home, a great group of intangible factors are given consideration. Someone has suggested that perhaps these values are the most fundamental of all with which we deal. Shall we say most basic of basic value? It will probably take years to get reasonably accurate measurements for home values. This is one good reason for starting now. (This thought should be given consideration by those who have discussed appraisals with almost exclusive emphasis on earnings.)

There is no aspect of the value that a farmer and his family holds to more tenaciously than home value. He will despair of all value before he gives up the home value. If these are facts with reality, the appraiser cannot overlook or minimize them.

We still have with us our old friends, the buildings. It is hard to break away from years of practice and thinking. That is the greatest obstacle to the solution of building appraisals.

I should like to suggest as a subject for our next Appraisal Conference the answer to this question:

Is a farm, the land and all that is permanently upon it, an integral whole or is it made up of logically divisible units? If we answer, one single unit, then our building appraisal job is simple. If we hold to the unit theory then we should define and set up those units so that they may be clearly seen, weighed, and evaluated. With their separation accomplished then means for their coordination and addition must be provided.

(Of course, you understand I am not referring to the physical appraisal of improvements by the replacement cost less observed depreciation method. I feel sure none of us are having trouble with that procedure, although we do need more facts and factors for doing a good job in that field.)

May I close with this thought:—I began by saying an appraisal is an opinion. May I now add that it is also a process. Let us never deceive ourselves by thinking at any stage in our perusal of this subject that the task is finished. Processes are continuous. This places upon us the im-



plied obligation of a never ending job. I fear that there are those who have felt and perhaps now feel that they have learned the lesson and all that remains is to practice it. I hope the time will come when some of you in this room will look back on my early remarks as evidence of what was at one time said and done, but of value chiefly as a historic background. I trust that some of the principles will remain intact but I feel certain that their application will be forever in a state of change, or let us hope, advancement.

The full implication of what I am saying when applied to all phases of rural appraising will mean more to you when you face the necessity of changing your own views and statements.

Remember if you will that some of you are calling your friends who do not now agree with you certain bad names. Beware that some youngster now in our midst does not have cause for applying his terms of scorn to us because we will not accept his new views. If appraising is a process we must remember that processes change from day to day. Can we change? Can we accept the new, the new not yet born? I feel that I can answer that question for my friends in this audience. You who have throughout your lives faced new frontiers, new soils, new homes, and new settlers, will by that token face new appraisal procedure with equal openmindedness and fortitude. Here on these new soils new ideas thrive and bear good crops. Yes, there is no better place in all the Americas to plant new ideas than where we stand today. New today, old tomorrow, and fortitude to try the task ahead. We who came here and planted a few new seeds seven years ago need not be surprised if in the years to come this also will be the place to come to harvest the best matured crops in the realm of Rural Appraisal thinking.

Yes, there is much that will change and some that will not. Honesty, integrity, and fidelity to a cause are the basic values that will never change. Hold them fast. Let no conquering army storm the ramparts of your faith in these sound principles. Sound and honest appraising is our objective. Changes in appraisal practices change not the Gibraltars of a high standard of ethics essential to its ultimate and permanent attainments.

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